

# CARBON CAPTURE AND STORAGE REGULATORY REVIEW FOR TRINIDAD AND TOBAGO

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## INTRODUCTION

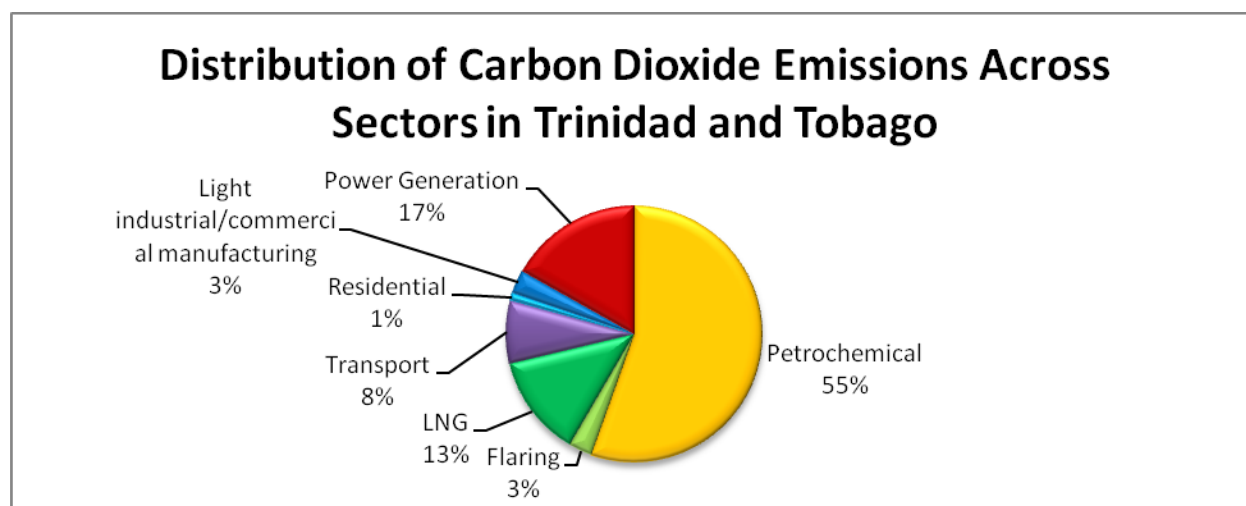
The Inter-American Development Bank (IDB) has provided a grant to Trinidad and Tobago to assist with the consideration of the impact of climate change into national policies and institutions.

The grant program is titled *Mainstreaming of Climate Change into National Development and Capacity Building for Participation in Carbon Markets* (the Program). As part of the Program, the Government is undertaking a study to examine the feasibility of a carbon capture and storage (CCS) project in Trinidad and Tobago. Through this study, it is hoped that the Government and other stakeholders will better understand the potential role CCS could play in Trinidad and Tobago.

The Global CCS Institute is supportive of the initiative and is pleased to contribute to the Program through the *Carbon Capture and Storage Regulatory Review for Trinidad and Tobago* (the Review). The Review considers the existing legal and regulatory framework as it pertains to CCS in Trinidad and Tobago.

The major sources of carbon dioxide (CO<sub>2</sub>) emissions in Trinidad and Tobago are the energy and manufacturing sectors (see **Figure 1**). *The National Climate Change Policy 2011* indicates that the CO<sub>2</sub> emission levels for Trinidad and Tobago for 2008 was 28.37 tonnes of CO<sub>2</sub> per capita, the highest in the region. Given that the country is the leading producer of oil and gas in the Caribbean as well as being the largest producer of methanol and the largest trader of ammonia (Boodlal and Smith, 2008) this figure is not surprising.

**Figure 1: Distribution of CO<sub>2</sub> emissions across sectors in Trinidad and Tobago**



(Reproduced from Boodlal and Furlonge, 2008)

The Government of Trinidad and Tobago has initiated and developed multiple policies that look toward taking action on reducing the country's greenhouse gas (GHG) emissions and CCS is a potential mitigation option. In Trinidad and Tobago there is evidence to suggest that there is opportunity to be an early adopter of CCS (Boodlal and Smith, 2008 and Sobers and Lashley, 2012). For instance, CO<sub>2</sub> could be captured from industrial plants (possibly ammonia) and then injected into depleted oil and gas fields to be sequestered. Economic benefit also could be obtained from utilising the CO<sub>2</sub> to increase the oil recovery of mature wells. Trinidad tested the first CO<sub>2</sub> enhanced oil recovery (CO<sub>2</sub>-EOR) project in either Central or South America in 1973. Four immiscible CO<sub>2</sub> pilot floods were implemented between 1973 and 1990 in what is now the Petroleum Company of Trinidad and Tobago Limited's (Petrotrin) reservoirs at its Forest Reserve and Oropouche fields (Mohammed-Singh and Singhal 2005). CO<sub>2</sub> for these pilots was supplied from an ammonia plant in Port Lisas. The pilots were successful in that significant amounts of oil were recovered as a direct result of the CO<sub>2</sub> injection. It should be noted that in all likelihood these activities were not subject to government regulation. Before the implementation of the

*Environmental Management Act 2000* and the introduction of the *Certificate of Environmental Clearance (Designated Activities) Order* in 2001, environmental impacts within the oil and gas sector were not governed by legislation but rather companies were required to conduct assessments at their discretion or by order of the Ministry of Energy and Energy Affairs (MEEA).

This Review considers how a CCS project, through its entire chain from concept and design to decommissioning, could fit into the current legal and regulatory framework of Trinidad and Tobago in 2012. Through an analysis of this framework, it is the view of the authors of this paper that a CCS project could be regulated in Trinidad and Tobago with some modification of existing laws and regulations. This is the result of the legislation that regulates a thriving oil and gas industry being in play throughout the twentieth century.

## Approach

This Review was completed by undertaking a desktop analysis of relevant legislation and regulation from Trinidad and Tobago. The desktop analysis was supplemented with stakeholder consultations, which had a particular focus on how regulation and permitting was applied in practice. Narinesingh, Ramlogan and Company prepared the comprehensive *Permitting Matrix* which forms part of this Review. The Matrix identifies permitting requirements and approval timelines a CCS project will likely face under Trinidad and Tobago's existing laws and regulations.

The Matrix provides essential regulatory information at a glance to potential proponents of CCS in Trinidad and Tobago. It includes:

- details of all the individual permits required for each aspect of the CCS process;
- identifies regulatory responsibilities amongst the key regulators and authorities;
- highlights the timings and processes associated with permit acquisition; and
- provides comments on emerging gaps.

The two stakeholder workshops and consultations with regard to this Review were undertaken in July and September 2012. The initial workshop on 2 July 2012 provided an opportunity for the Institute to meet with key stakeholders in Trinidad and Tobago. The itinerary commenced with a general workshop outlining the purpose of the Review, how it fit into the broader IDB grant and the associated role of the Institute. The workshop utilised the opportunity to introduce several stakeholders to CCS as a key climate change mitigation technology. This workshop was followed by individual meetings with stakeholders to seek their input and expertise on various aspects of the Review.

The second workshop, held on 12 September 2012 was an opportunity for stakeholders to provide detailed comments on the draft Review and Matrix document and to identify legislative gaps or required amendments. 16 organisations, which represented key stakeholders, participated in this workshop. The documents were provided to stakeholders several days before the event. Feedback was sought at the workshop and stakeholders were given until 20 September 2012 to provide further comments by email or telephone to either the Ministry of Environment and Water Resources (MEWR) or the Institute. Several organisations utilised this opportunity.

The following organisations attended the workshop held on 12 September 2012 (in alphabetical order): Basel Convention Regional Centre for the Caribbean Region, CCS TLM LTD, The Energy Chamber of Trinidad and Tobago, Environmental Management Authority, Global CCS Institute, Institute of Marine Affairs, Land Management Division, Ministry of Energy and Energy Affairs, Ministry of Environment and Water Resources, Narinesingh, Ramlogan and Company, National Gas Company, Occupational Safety and Health Authority and Agency, The Power Generation Company of Trinidad and Tobago LTD, Regulated Industries Commission, Town and Country Planning Division, University of the West Indies. The Trinidad and Tobago Electricity Commission and Petrotrin were unable to attend on the day.



## OVERVIEW OF THE POLITICAL AND LEGAL SYSTEM OF TRINIDAD AND TOBAGO

The Republic of Trinidad and Tobago is an archipelagic state in the southern Caribbean. Its neighbours include Venezuela to the south west and Grenada to the north. Trinidad and Tobago shares maritime boundaries with Barbados to the northeast, Guyana to the southeast, and Venezuela to the south and west. The country consists of two main islands, Trinidad and Tobago, and numerous smaller landforms. Trinidad is the larger and more populous of the main islands, comprising about 96 per cent of Trinidad and Tobago's one million citizens.

Spain claimed the island of Trinidad as a Spanish colony in 1498 whilst the island of Tobago changed hands between Spanish, British, French, Dutch and Courlander colonisers. In 1802, Trinidad and Tobago was ceded to Britain under the Treaty of Amiens. The country obtained independence in 1962 and became a republic in 1976.

Trinidad and Tobago is a unitary republic with a two-party system and a bicameral parliamentary system based on the Westminster System. The head of state is the President, currently George Maxwell Richards, TC CM. The head of Government is the Prime Minister, currently Kamla Persad-Bissessar, SC, MP.

Presently there are 14 Municipal Corporations in Trinidad. The Ministry of Local Government is responsible for providing guidance and monitoring to the Municipal Corporations in the areas of infrastructure, health, development planning and community services. The Tobago House of Assembly (THA) is the local government body responsible for the island of Tobago. In addition to normal local government functions, the THA also carries out some of the responsibilities of central government within Tobago (*Tobago House of Assembly Act 1996 Schedule Five*), but it cannot impose other functions of central government such as taxes, create local laws or impose zoning regulations (*Tobago House of Assembly Act 1996 Schedule Six*). THA is enshrined within the constitution for the "...purpose of making better provision for the administration of the Island of Tobago and for matters connected therewith" (*Constitution of the Republic of Trinidad and Tobago Legal Supplement Part A*).

The economy is underpinned by petroleum and natural gas production and processing which has led to Trinidad and Tobago becoming the Caribbean's largest producer of oil and natural gas. According to the *BP Statistical Review of World Energy 2012*, Trinidad and Tobago had proved oil reserves of 0.83 billion barrels at the end of 2011 and produced an average of 136 thousand barrels of crude oil per day. Both natural gas and oil exploration activities in Trinidad and Tobago have continued at a fast pace since the beginning of the twenty-first century.

Most oil production in Trinidad and Tobago occurs offshore. The two largest crude oil producers in Trinidad and Tobago are BHP Billiton and the state-owned Petrotrin, who each control around 25 per cent of the country's crude oil production.

Natural gas production in Trinidad and Tobago has increased dramatically. According to the *BP Statistical Review of World Energy 2012*, Trinidad and Tobago had proven natural gas reserves of 0.40 trillion cubic metres and natural gas production of 40.7 billion cubic metres in 2011. In addition to Liquefied Natural Gas (LNG) exports, Trinidad has a large petrochemical industry with nine ammonia complexes, six methanol units, a urea plant, and an iron and steel production plant.

The Government has embarked on a major energy sector project to recover proven reserves of 44 million barrels of heavy oil from onshore and offshore producing fields. This project is being principally funded by a loan obtained from the IDB, the funds from which have been made available to Petrotrin and Petrotrin Trinmar Operations.





# 1 OVERVIEW OF INTERNATIONAL LEGAL COMMITMENTS

The various agreements and organisations outlined below give an overview of the international and regional marine and environmental commitments that have been made by Trinidad and Tobago. It is however, important to note that whilst these commitments have been made they do not carry force of law within domestic legislation. This is of interest given that the Basel Convention Regional Centre as well as the Caribbean Court of Justice are located in Port of Spain.

Despite not being enacted into domestic law, there is nevertheless an expectation that Trinidad and Tobago would not act contrary to international agreements, and they may therefore factor into any consideration of CCS policies or the impact of a CCS project.

## 1.1 Climate change agreements

### United Nations Framework Convention on Climate Change and the Kyoto Protocol

Trinidad and Tobago is a party to the United Nations Framework Convention on Climate Change (UNFCCC). On 28 January 1999, Trinidad and Tobago ratified the Kyoto Protocol as a Non-Annex 1 country. As such, the country does not have legally binding GHG emission reduction targets and to date have not announced voluntary reduction targets. As a Non-Annex 1 party, Trinidad and Tobago is obliged to submit national reports on implementation of the Convention to the Conference of the Parties (COP). Under Article 4 (1) of the Convention, Trinidad has a number of obligations including to:

- a) develop, periodically update and publish national inventories of anthropogenic emissions by sources and removals by sinks of GHG;
- b) formulate, implement, publish and regularly update national programmes containing measures to mitigate climate change by addressing anthropogenic emissions by sources and removals by sinks of GHGs and measures to facilitate adequate adaptation to climate change; and
- c) promote and cooperate in the development, application and diffusion, including transfer of technologies, practices and processes that control, reduce or prevent anthropogenic emissions of greenhouse gases not controlled by the Montreal Protocol in all relevant sectors, including the energy, transport, industry, agriculture, forestry and waste management sectors.

Article 10 also has a number of commitments that should be noted including:

- (a) formulate, implement, publish and regularly update national and, where appropriate, regional programs containing measures to mitigate climate change and measures to facilitate adequate adaptation to climate change.

As of August 2012, Trinidad and Tobago has submitted one national communication in 2001, which reports on their implementation of commitments under the Convention.

### International marine agreements

Trinidad and Tobago is not a signatory of *The Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972*, commonly called the 'London Convention'. However, Trinidad and Tobago is a Party to the London Protocol, which has superseded the London Convention. Trinidad and Tobago acceded to the London Protocol in 2000.

The Institute of Marine Affairs: Trinidad and Tobago (IMA) reviews regional and international legal instruments to identify gaps in Trinidad and Tobago's marine and environmental laws and policies. IMA has identified the need for a comprehensive marine policy that integrates the London Protocol and other international and regional marine legal instruments.





## Transboundary issues

In 1994, Trinidad and Tobago acceded to the *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal* and ratified the Amendment to the Basel Convention in 2000. The Basel Secretariat has not made an indication of how the Convention may apply to CCS. However, given the potential of the Basel Convention to apply to the transboundary movement of CO<sub>2</sub> in the future, it is important to recognise Trinidad and Tobago's ratification of it.

Currently, there is no national definition of hazardous waste used for the purpose of transboundary movements of waste. There are currently no legal restrictions on the export of hazardous wastes and other wastes for final disposal or recovery. Similarly, there is no legal instrument restricting the importation of hazardous waste although the Government of Trinidad and Tobago does not allow this to happen (Secretariat of the Basel Convention, 2008). It is important to note that there are no dedicated shipping lanes within Trinidad and Tobago except for the entry point into major ports. This creates significant risk to marine transport and increases chances of spills or discharges from ships. Shipping jurisdiction falls under the purview of Port Authorities.

As the Competent Authority of Trinidad and Tobago for the Basel Convention, the Environmental Management Authority is preparing the Draft Waste Management Rules, which may cover these outstanding issues (Draft Waste Management Rules 2008 s24).

The primary mechanism for assisting in the implementation of the Basel Convention and its obligations are a series of Basel Convention Regional Centres for Training and Technology Transfer (BCRC). BCRC-Caribbean is located in Trinidad and Tobago within the MEWR office. MEWR is currently BCRC-Caribbean's primary source of funding.

## Maritime border between Trinidad and Tobago and Venezuela

Trinidad and Tobago and Venezuela share a maritime border under which several oil and gas reservoirs are shared. In instances where operators intend to develop a field, a precedent has been set for the creation of a bilateral agreement outlining the terms and conditions for producing the resource. A recent example of this is the 2010 signing of the Loran/Manatee unitisation treaty between the two Governments agreeing to split reserves. The Loran-Manatee gas field will be developed by Chevron in partnership with British Gas.

This precedent would be relevant in instances where a potential storage location straddles a maritime boundary. However, given that there are potentially suitable reservoirs both within Trinidad and Tobago's maritime boundaries and onshore, it is unlikely that initial projects utilise a storage site that would straddle an international boundary.

## Regional commitments

### Alliance of Small Island States

The United Nations Department of Economic and Social Affairs list Trinidad and Tobago as one of 52 Small Island Developing States (SIDS). Trinidad and Tobago is also a member of the Alliance of Small Island States (AOSIS).

Established in 1990, the main purpose of AOSIS is to consolidate the voices of SIDS to address global warming. AOSIS recognises the potential of CCS technology as part of the global mitigation effort to keep the average increase in global temperatures to less than 1.5°C above pre-industrial levels (Submission by Grenada to UNFCCC, 2011). AOSIS were ultimately supportive of CCS in the Clean Development Mechanism (CDM).

### Caribbean Community

Trinidad and Tobago is also a member of the Caribbean Community (CARICOM) an organisation of 15 Caribbean nations and dependencies, established through the Treaty of Chaguaramas. CARICOM promotes economic integration and cooperation in the region. CARICOM has agreed



that climate change is a crucial issue for the region and member governments have committed to addressing the issue at local, regional and international levels.

In 2001, the CARICOM heads of government signed a Revised Treaty of Chaguaramas. Part of the revised treaty includes the establishment and implementation of the Caribbean Court of Justice (CCJ) which is based in Port of Spain, Trinidad and Tobago. In brief, the court has two jurisdictions. Firstly the CCJ has the authority to interpret and apply the Revised Treaty of Chaguaramas. Secondly, the CCJ hears appeals as the court of last resort in both civil and criminal matters from those member states, which have ceased to allow appeals to the Judicial Committee of the Privy Council. In April 2012, Prime Minister of Trinidad and Tobago announced the intention to abolish criminal appeals to the Privy Council and would be tabling legislation in favour of the CCJ.

### **Association of Caribbean States**

Trinidad and Tobago is a member state of the Association of Caribbean States (ASC). The ASC is an association of nations that are centred around the Caribbean Basin. The main purpose of the ASC is to promote trade, enhance transportation, develop sustainable tourism, and facilitate more effective responses to local natural disasters.

## **2 CLIMATE CHANGE LAW AND POLICY IN TRINIDAD AND TOBAGO**

In support of its obligations under the UNFCCC and Kyoto Protocol the Government of Trinidad and Tobago has agreed to implement (MEEA, 2011):

1. development of a climate change policy;
2. establishment of a Renewable Energy Committee; and
3. establishment of a Carbon Reduction Strategies (CRS) Task Force.

### **2.1 Climate change policy**

Notably, Cabinet approved the National Climate Change Policy (NCCP) in 2011. The NCCP provides guidance for the development of an appropriate low carbon development path as well as an administrative and legislative framework for climate change. This guidance addresses renewables, energy efficiency, use of alternative fuels and increasing the use of cleaner technology. There is further discussion of the Policy in Section 6. At COP 17 in Durban South Africa, H.E. Mrs Joy Creese, Permanent Secretary of Housing and the Environment announced the approval of the NCCP. Whilst formal voluntary targets are not indicated in the NCCP and are yet to be prescribed, a key goal of the NCCP is to define an “...ambitious yet practically feasible and achievable greenhouse gas emissions reduction objective in the near future” (Statement by the H.E. Mrs Joy Creese, Permanent Secretary, Ministry of Housing and the Environment, 2011).

Through the NCCP, the Government has pledged to “continue to develop all relevant sectors, including its industrial sector, as it aspires towards achieving sustainable development” (Government of the Republic of Trinidad and Tobago, 2011 9.2). Accordingly, the Government has undertaken to explore “new technologies for carbon sequestration through cooperating with the international community to develop carbon capture and storage technology in geological formations utilising the already abundant experience of Trinidad and Tobago in using carbon dioxide for enhanced oil recovery” (Government of the Republic of Trinidad and Tobago, 2011 9.2 vii(c)).

## 2.2 Renewable Energy Committee

The Renewable Energy Committee was established in 2009 and in January 2011, the Committee published a framework for the development of renewable energy policy for Trinidad and Tobago. The Committee have proposed several initiatives including the promotion of alternative energy technologies and the introduction of fiscal incentives designed to improve "...the commercial viability of conversion and accelerate the transition to renewable alternatives" (MEEA, 2011 p3).

## 2.3 Carbon Reduction Strategy Task Force

The Carbon Reduction Strategy (CRS) Task Force was launched on 28 April 2010. The Task Force is chaired by Mr Selwyn Lashley, Permanent Secretary, Ministry of Energy and Energy Affairs. The membership is comprised of leading individuals in government and industry.

The mandate of the CRS Task Force is to:

1. develop a national 'Carbon Reduction Strategy';
2. develop a regulatory and policy environment for carbon capture utilisation and storage and credit trading; and
3. recommend suitable projects and incentives to attract investment from companies and research bodies interested in exploring and pursuing carbon reduction initiatives.

The CRS Task Force is currently developing a business model for rollout to key stakeholders and potential investors with regard to CCS-EOR (MEEA, 2011). In the first instance, the Task Force will focus on CO<sub>2</sub> emissions from the Point Lisas area and will include identification of all point sources of CO<sub>2</sub> as well as design and technology selection for capture and treatment of CO<sub>2</sub> and an examination of associated costs.

The outcomes of the CCS Scoping Study (being undertaken as part of the IDB grant) and this Review could usefully inform the CRS Task Force's strategy development.

## KEY STAKEHOLDERS

A number of government ministries and a few industry players would play a fundamental role in the development of CCS regulations and the approval of a CCS project in Trinidad and Tobago.

**Figure 2** provides a diagram of the relationships between these bodies. The following government entities would have key roles regarding CCS regulation and project implementation:

### Cabinet Standing Committee on Energy

The Cabinet Standing Committee on Energy (SCE) is an ad hoc committee comprised of 10 Ministers of Government, senior technocrats from the Ministry of Energy and Energy Affairs, Ministry of Finance and Ministry of Planning, and the Chairmen and Chief Executives of the energy sector state enterprises. The Prime Minister chairs the SCE and strategic policy decisions regarding important issues and developments in the energy sector of Trinidad and Tobago are discussed at this forum.

### Environmental Management Authority

The Environmental Management Authority (EMA) is Trinidad and Tobago's environmental regulator. The EMA is responsible for managing a response to the country's environmental problems. It does this by developing and implementing environmental laws, regulations and standards, through promoting public awareness of key issues. The EMA determines whether a Certificate of Environmental Clearance (CEC) will be issued for new or significantly modified designated activities and monitors compliance throughout the life of a project. A CEC is a key



regulatory mechanism for the environment management of a project, and will be discussed in more detail in Section 6: Planning.

### **Land Management Division**

The Land Management Division (LMD) sits within the Ministry of Housing, Land and Marine Affairs, The Office of the Commissioner of State Lands which is part of LMD is responsible for the administration of State land as well as the issue of State grants and for the acquisition of privately owned land for public use.

### **Ministry of Energy and Energy Affairs**

The Ministry of Energy and Energy Affairs (MEEA) is both a policy and enforcement body. MEEA is responsible for policymaking and implementation, and the monitoring, control and regulation of the energy and mineral industries. The Minister is empowered to grant oil and gas exploration and production licenses under the Petroleum Act and to give permission for the conducting of petroleum operations generally in Trinidad and Tobago. MEEA is the line-ministry for Petrotrin. Petrotrin is the major State-owned oil company in Trinidad and Tobago. MEEA also chairs the CRS Task Force.

### **Ministry of Environment and Water Resources**

The Ministry of Environment and Water Resources (MEWR) is responsible for guiding and formulating environmental policy. MEWR also monitors and evaluates the implementation and effectiveness of environmental policy as well as the design and implementation of environmental programs and projects pursuant to national policy objectives.

### **National Gas Company**

Formed in 1975 the National Gas Company (NGC) is a government owned company, which operates a natural gas transmission and distribution pipeline network of approximately 800 km both onshore and offshore (Ninane et al. 2011 p. 207).

### **Occupational Health and Safety Authority and Agency**

The Occupational Safety and Health Authority and Agency (OSHA) was formed in 2007. The purpose of the Authority is to encourage the enforcement of the Occupational Health and Safety Act, to promote training, research, access to information, to make Regulations and to approve Codes of Practice. The Agency is the enforcement arm of the Authority.

### **Town and Country Planning Division**

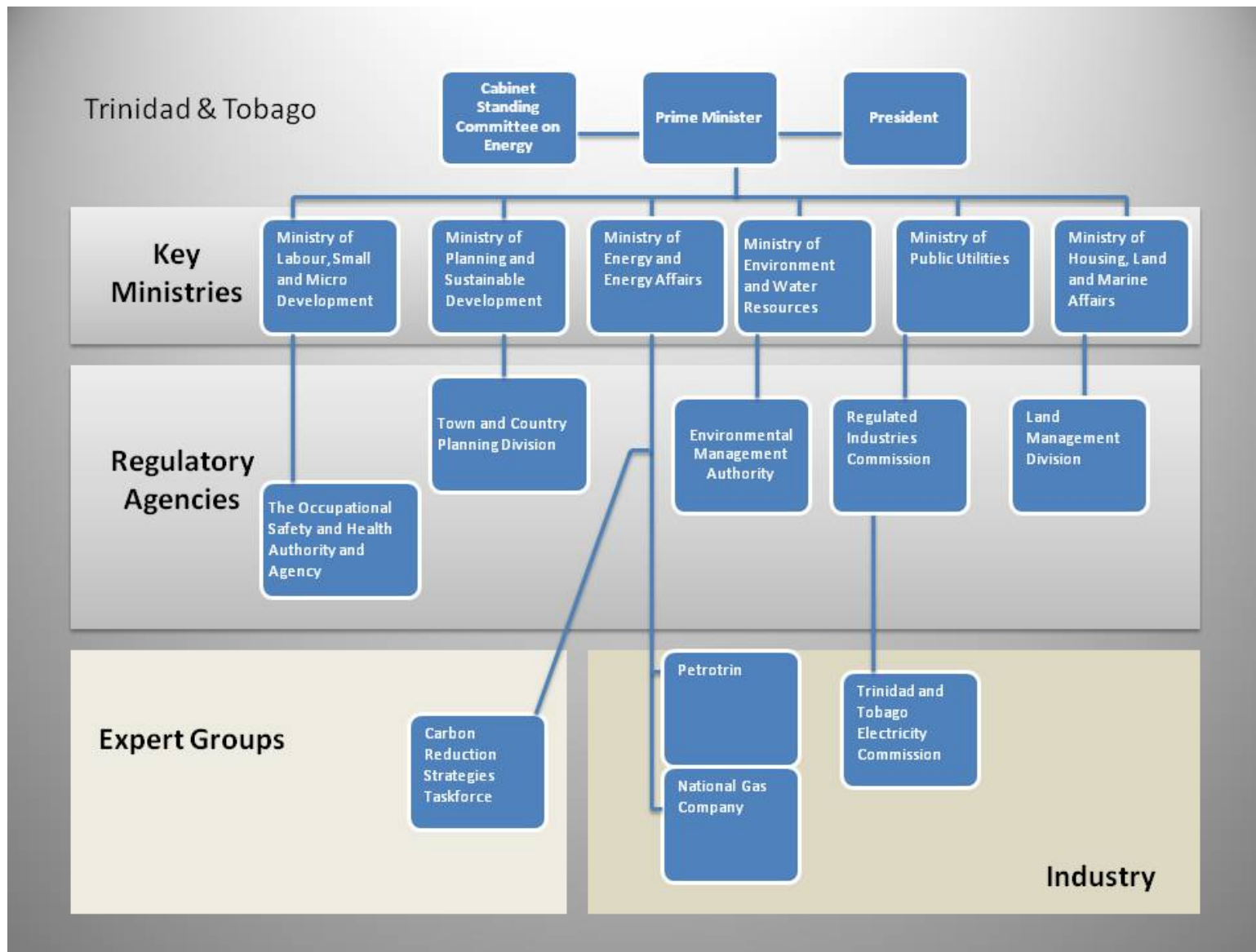
The Town and Country Planning Division (TCPD) of the Ministry of Planning and Sustainable Development evaluates and determines applications for planning permission to develop land in accordance with the *Town and Country Planning Act*. TCPD guides decision making on the use and development of land and enforces planning control.

### **The Petroleum Company of Trinidad and Tobago**

The Petroleum Company of Trinidad and Tobago (Petrotrin) is the major state-owned oil company in Trinidad and Tobago. Petrotrin controls the majority of the country's oil reserves and operates an oil refinery at Pointe-a-Pierre. Most crude petroleum produced in Trinidad is exported without being refined. The refinery depends on imported crude, which is either used domestically or exported. Petrotrin are currently undertaking EOR projects utilising water and steam and have utilised CO<sub>2</sub> in the past. The IDB are assisting Petrotrin to initiate a GHG inventory for its operations that will be updated every calendar year.



Figure 2: Key Government CCS Stakeholders





### 3 LIST OF MAJOR APPLICABLE LEGISLATION, REGULATIONS, STANDARDS AND RULES

Trinidad and Tobago currently has no laws that specifically govern CCS. However, a number of existing laws and regulations could be applicable to a CCS project. Various ministries and departments would be involved.

This section reviews current laws that could govern CCS activities.

National laws and regulations	
Environmental Management Act 2000	Certificate of Environmental Clearance (Designated Activities) Order 2001
	Noise Pollution Control Rules 2001
	Water Pollution Rules 2001
	Environmentally Sensitive Areas and Species Rules, 2001
	Air Pollution Rules, 2005 (Draft)
	Waste Management Rules, 2008 (Draft)
Land Acquisition Act 1994	
The Occupational Safety and Health Act 2004	
Municipal Corporations Act 1990	
Pesticides and Toxic Chemicals Act 1979	Toxic Chemicals Regulations
Petroleum Act 1969	Petroleum Regulations
Pipelines Act 1933	
State Lands Act 1918	
Town and Country Planning Act 1960	
Standards	
Effluent Standards	
Industrial Wastewater Standard	



## 4 SPECIFIC CONSIDERATIONS PERTINENT TO CO<sub>2</sub> STORAGE CHARACTERISTICS

### 4.1 Classification of CO<sub>2</sub>

Trinidad and Tobago currently has no laws that specifically classify CO<sub>2</sub>, however, the *Environmental Management Act 2000* contains definitions for 'air pollutant', 'hazardous substance', 'pollutant', 'waste' and 'water pollutant' which all could potentially apply to CO<sub>2</sub>.

Under the *Environmental Management Act* section 2, 'waste' is defined as including "any material discarded or intended to be discarded which (a) constitutes garbage, refuse, sludge, or other solid, liquid, semisolid, or gaseous material resulting from any residential, community, commercial, industrial, manufacturing, mining, petroleum or natural gas exploration, extraction or processing, agricultural, health care, or scientific research activities." The term 'air pollutant' means "any pollutant released into or which otherwise has an impact on the atmosphere or climate." 'water pollutant' means "any pollutant released into or which otherwise has an impact on the surface water, sea, groundwater, wetlands, or marine areas within the environment". In turn the terms 'pollution' and 'pollutant' have corresponding meanings which are "the creation or existence of an deviation from natural conditions within the environment, which based on technical, scientific or medical evidence is determined to cause or to be likely to cause harm to human health or the environment, resulting from (a) the presence or release of any substance." The term 'hazardous substance', could also apply; 'hazardous substance' is "any substance which, by reason of its chemical or physical properties, and based on technical, scientific and medical evidence is determined to cause through handling or from a release, harm to human health or the environment".

All of these definitions are broad enough in scope that if CO<sub>2</sub> were to be injected into the subsurface for a CCS project, it could be determined by the EMA as a waste and accordingly be subject to permitting requirements under applicable laws and regulations.

As indicated above there is currently no national definition of hazardous waste used for the purpose of transboundary movements of waste in Trinidad and Tobago.

### 4.2 Liability for stored CO<sub>2</sub>: Existing requirements and responsibilities

Liability for stored CO<sub>2</sub> is a key issue for all jurisdictions implementing legislation and permitting CCS projects. As yet, there are no policies or legal provisions for the liability of stored CO<sub>2</sub> in Trinidad and Tobago however, examples can be drawn from the domestic oil and gas industry which provide an indication of how this may be approached. For example, if a CEC is granted for a project that includes storage of CO<sub>2</sub>, the terms and conditions can provide for liability for storage this may include posting a compensation bond. The EMA has the capacity to create project-specific obligations, which could include bonds being imposed on an oil and gas project.

The *Petroleum Act 1969* and *Petroleum Regulations* govern both upstream and downstream petroleum operations. This governance includes land and submarine areas along the entire chain from exploration, development and production. This legislation also governs refining, transportation and marketing. Through this legislation, a framework for granting licenses and contracts for petroleum operations has been established. Currently, MEEA is responsible for the administration of the *Petroleum Act* and *Petroleum Regulations* and in addition to the elements listed above also regulates gas flaring and venting. Sections 16 and 17 of the *Petroleum Act* stipulate the duties of the licensee at the expiration of any Exploration and Production (Public Petroleum Rights) Licence. These include the duty to restore "...so far as may be possible, to their natural and original condition of the licensed area or the surrendered part thereof...". Individual licenses contain sanctions to deal with failure to fulfil obligations. The duty to restore reflects the policy position that operators are



responsible for environmental consequences of activities. Thus, it is possible MEEA may consider that the payment of a bond or the creation of a trust, paid for by the operator, is a potential approach to manage environmental impacts past the decommissioning of a CCS project.

The National Oil Spill Contingency Plan (NOSCP) details and delineates responsibilities for the operational response to marine emergencies, which could result in oil spills to the marine environment (MEEI, 2010). The primary objective of the NOSCP is to minimise the threat to human life and the environment.

The NOSCP is a detailed response management strategy that attributes roles and responsibilities to various actors including lead government agencies. In the case of a spill incident for example, the official response will not be made independently of the Responsible Party (RP). RPs are responsible for the cost of the incident and clean-up operations. In an instance where a RP does not report a spill incident, the oil can be 'finger printed' and the RP identified to trace its origin. The results can be used in litigation proceedings. The NOSCP indicates that oil and gas companies are held responsible for actions. This is supported in legislation through the *Oil and Pollution of Territorial Waters Act 1951*, which provides that the owner or master of the vessel from which oil discharges or escapes is liable on conviction of a fine or imprisonment. This approach may set a precedent for how liability for potential leakage of stored CO<sub>2</sub>, especially during the operational and immediate post closure phase of a project

Approximately 95 per cent of the country's energy needs are met by natural gas. Atlantic LNG is the country's only producer of LNG, producing approximately 15 million metric tonnes per year of LNG (Ninane et al. 2011 p. 205). LNG produced for export is stored onsite in four tanks located at Atlantic LNG's production facilities at Point Fortin. There is currently no legislation in Trinidad and Tobago regulating the storage of LNG.

More detail on gas regulation can be found in Section 8.

Both the *Petroleum Act 1969* and the NOSCP indicated that the duty of environmental responsibility rests on the operator, at least during the immediacy of an event and the following short term consequences. How CCS liability will be handled following the decommissioning of a CCS project is a key policy and regulatory area for the consideration of the Trinidad and Tobago Government. Other governments which have developed CCS legislation and regulation (e.g. Australia, European Union) transfer the liability from the operator to the government after a certain period of time (e.g. in the order of 20 years after decommissioning) and providing certain requirements have been met. Whether or not the Trinidad and Tobago Government would assume that responsibility at some stage is yet to be determined.

## 5 PLANNING

### 5.1 Environmental protection

Current government policy is supportive of taking action to reduce GHG emissions as part of a broader environmental policy. Whilst the country does not have a mandatory GHG emission reduction scheme, the National Environmental Policy as well as the NCCP specifically mention the need for climate change initiatives. The NCCP lists five Guiding Principles to guide climate change policy and strategy. These principles are:

- a) the response to the climate change challenge must be sustainable;
- b) the response to climate change will require a consultative and multi-partite approach;
- c) the response to climate change must follow the precautionary approach;



- d) the response to climate change must be multi-sectoral and include both mitigation and adaptation actions; and
- e) the response to climate change must be evidence based.

Under these principles, the Government will adopt strategies and actions that are environmentally sustainable and compatible with economic growth and social development. The policy demonstrates that the Government is taking its obligations under the UNFCCC seriously and has committed to fulfilling its responsibilities.

Other national policies and legislation that have some relevance to climate change include:

1. National Policy and Programs on Wetland Conservation for Trinidad and Tobago (2001);
2. National Protected Areas Policy (2011);
3. National Forest Policy (2011);
4. National Tourism Policy (2010);
5. Environmentally Sensitive Areas Rules (2011);
6. Draft Waste Management Rules (2008);
7. Water Pollution Management Program (2005);
8. Certificate of Environmental Clearance Rules (2001); and
9. Draft National Energy Policy 2011-2015.

What can be seen from the list above is that over the past 13 years, since becoming a Party to the UNFCCC, Trinidad and Tobago has enacted multiple policies addressing climate change through various strategies and activities. NCCP is the most recent policy document to emerge and it makes specific reference to CCS as a mitigation option. Through cooperating with the international community, Trinidad and Tobago has committed to explore CCS in combination with EOR.

### **Environmental Management Act**

The *Environmental Management Act 2000* empowers the Minister responsible for the environment (currently the Minister of the Environment and Water Resources) to make laws and regulations to certain environmental matters and to designate certain activities as requiring a CEC.

The EMA is a statutory authority that is established by the *Environmental Management Act*. The EMA is mandated to enforce laws and regulations for environmental management, to educate the public about the nation's environmental issues and to control and prevent pollution, as well as conserve natural resources.

### **Certificate of Environmental Clearance**

As a key part of its mandate, the EMA assess and can issue CECs to new development projects that would likely impact the environment. The CEC Rules are the environmental permit regulations that fall under the *Environmental Management Act*. There are 44 Designated Activities listed in the Schedule of the *Certificate of Environmental Clearance (Designated Activities) Order 2001*. Any project that falls within one or more of these Designated Activities (DA) requires a CEC. The timelines for the CEC process are shown in **Figure 3**.

This legislation mandates that any new project that can have significant environmental impacts (such as the Upper Morne L'Enfer Sands of the Forest Reserve Oilfield EOR project) will require a CEC from the EMA. It is the role of the EMA to coordinate with the various ministries and authorities to assess individual applications. As discussed further in

Section 6.3 the need for greater collaboration between regulators (especially given the regulatory overlaps) has been identified and work is currently being undertaken to formalise and improve communication between primary regulators such as the EMA and the Occupational Health and Safety Authority and Agency.

The purpose of CECs is to ensure environmental risks associated with new or significantly modified development activities are identified and a mitigation management plan developed to address potential risks and hazards. The MEEA will not grant approval for a project unless a CEC is granted from the EMA. In saying this, in circumstances where the MEEA has granted a company an exploration or drilling licence, the EMA cannot reject a CEC proposal outright but must grant the opportunity to the company to apply for a CEC and undertake an environmental impact assessment (EIA) (*Talisman (Trinidad) Petroleum Ltd, 2002*).

Although CCS is not listed as a DA, it is likely that CCS activity in its entirety would be major enough to require a CEC under the *Certificate of Environmental Clearance (Designated Activities) Order 2001*.<sup>1</sup> Some of the elements of a CCS project are covered in individual DAs such as CCS projects dealing with enhanced secondary oil recovery activities and establishment of infrastructure for pipelines. Nevertheless, for the purposes of administrative ease the possibility exists to nominate CCS activity as a specific DA.

### Environmental Impact Assessment

The CEC process can allow environmental issues to be addressed without the need for an EIA (see **Figure 4**). If the EMA determines that there could be significant environmental impacts arising from activities then the application would require an EIA. Once the EMA notifies an applicant that an EIA is required for a proposed project, the EMA has 21 working days from that notification date to develop a Draft Terms of Reference (TOR) for the EIA. The legislation dictates that the preparation of the TOR must be done in consultation with the applicant. While preparing the TOR, the EMA may also consult with other government agencies, to whom the proposed project may be relevant, as well as local or foreign experts. Relevant external stakeholders are also consulted during the process and where necessary, to contribute to the draft TOR (EIA FAQ Booklet). To acquire a CEC for energy projects, the EMA will usually request a full-scale EIA. An EIA report will include a number of plans as part of the assessment such as monitoring plans, risk assessments, emergency response plans and environmental management plans.

### Enforcement of legislation

Until the enactment of the *Environmental Management Act* and *Certificate of Environmental Clearance (Designated Activities) Order 2001*, the enforcement of environmental legislation has been hampered by the lack of coherent effluent standards for liquid and solid wastes, and gaseous emissions (Dyal, Nijhawan and Ramnath 1995). Up until this point, the onus for managing the environmental impact of the projects undertaken lay with the project developer. It is however the case especially in the petrochemical sector in Point Lisas, that Port Lisas Industrial Port Development Corporation (the landlord) would include World Health Organisation or World Bank Standards for dealing with particular effluents.

At this point in time, the *Air Pollution Rules* and the *Waste Management Rules* remain in draft, and these may be relevant to a CCS project. However, CEC rules have become a

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<sup>1</sup> In the situation where the different elements of a CCS project (i.e. capture, transport and injection) are operated by different operators, it is likely that a separate CEC would be applied for each element; the operator is likely to want to be liable only for what falls under their control. Even if separate CECs for the different elements of a CCS project were applied for, the EMA might require each separate CEC to consider the impacts of the CCS project holistically. It was noted by stakeholders that the acquisition of separate CECs could potentially hold up a CCS project, and be a source of delay.

vehicle to enforce draft legislation as CECs granted by the EMA can legally bind applicants to obligations that are being proposed under draft legislation including standards and codes (Khan, Ramlogan and Ramnath, K 2004 p4). The EMA provides that the breach of a CEC is a breach of an environmental requirements (Section 62(g)) and apart from civil assessment there can be fines monetary penalties in the form of damages at a rate of TTD10,000 for each violation and where continuing, 5000 per day (Section 66(3)(b)).

Decisions of the EMA may be made to the Environmental Commission as specified in Section 81(5). If there is an appeal on a question of law from a decision of the Environmental Commission it can be made to the Court of Appeal. An administrative civil assessment can be appealed to the Environmental Commission under Section 81(5)(d) and all decisions of the Commission where it deals with legal issues can be appealed. Therefore if there is a legal issue arising out of the imposition of an administrative civil assessment the decision can be repealed.

It is likely that given the need for rigorous monitoring, measuring and verification (MMV) requirements to manage environmental impact of a CCS project, that an EIA would be required under the current regulatory system.

### Public participation

Both the *Environmental Management Act* and the NCCP outline public participation requirements. The EIA process provides an opportunity for all stakeholders, including the public, to participate in the identification of issues of concern, practical alternatives, and opportunities to avoid or mitigate adverse impacts. However, despite the legislative requirements, public participation is not very active in Trinidad and Tobago (Chandool 2011). Unless the citizenry have a direct concern such as loss or gain of jobs or impacts on fisheries, the public rarely attend consultations and meetings nor do they provide invited comments on EIA reports (Chandool 2011). Yet despite this, the *Environmental Management Act* does provide avenues for participation, communication and public involvement where one did not exist before the implementation of the Act.

Once the project applicant receives the draft TOR from the EMA, the applicant must undertake any public consultations that are conferred in the draft TOR. Within 28 calendar days the applicant must make written submission enunciating the concerns of stakeholders as articulated during the public consultations. The EMA will issue the final TOR to the applicant within 10 working days after the applicant's 28-day deadline date. The final TOR will be based on a consideration of issues raised by the public.

In addition to the TOR consultations, the EMA has built public participation into the EIA development process. The policy of the EMA is to mandate the developer to have a public consultation prior to commencement of base line studies for the purpose of the EIA. At the end of the conduct of the baseline study, the EMA often mandates the developer to hold another public consultation so as to report on the findings. These two public consultations are not statutory based but are EMA policy, and are usually required.

After the applicant submits their draft EIA to the EMA<sup>2</sup>, persons wishing to provide written comments on an EIA report can do so by visiting the EMA's offices, its website or any of the locations identified in the daily newspaper. There is an allotted timeframe of not less than 30 calendar days starting from the date of advertising in the daily newspaper for the public to submit written comments to the EMA. On average, the public comment period runs for about 40 calendar days, but may vary depending on the application at hand. Where there is sufficient public interest in a project as discerned from the public participation, the EMA may have a public hearing to discuss the issues pertaining to the project.

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<sup>2</sup> It should be noted that there is no time limit placed on the project applicant to develop the EIA; hence, in practice, there is a wide variety of timeframes taken to develop an EIA.



If the scope of the proposed project changes during the EIA process then this may render any completed consultations invalid. In these instances, the EMA has the power to determine whether additional consultations are required. Further, if the EMA has made or received major comments on a submitted draft EIA, the EMA may require the preparation of a Supplementary EIA that will be subject to the written public comment requirement as discussed above.

Finally, the EMA may require a developer to prepare a special report for example on the impact on human health of a particular project (e.g. this was requested for a new aluminium smelter). In these instances, the EMA may agree on a terms of reference with a developer and mandate that specific public consultations be held to address the contents of such a special report.

The NCCP also outlines the need for a consultative response to climate change. Guiding Principle B prescribes:

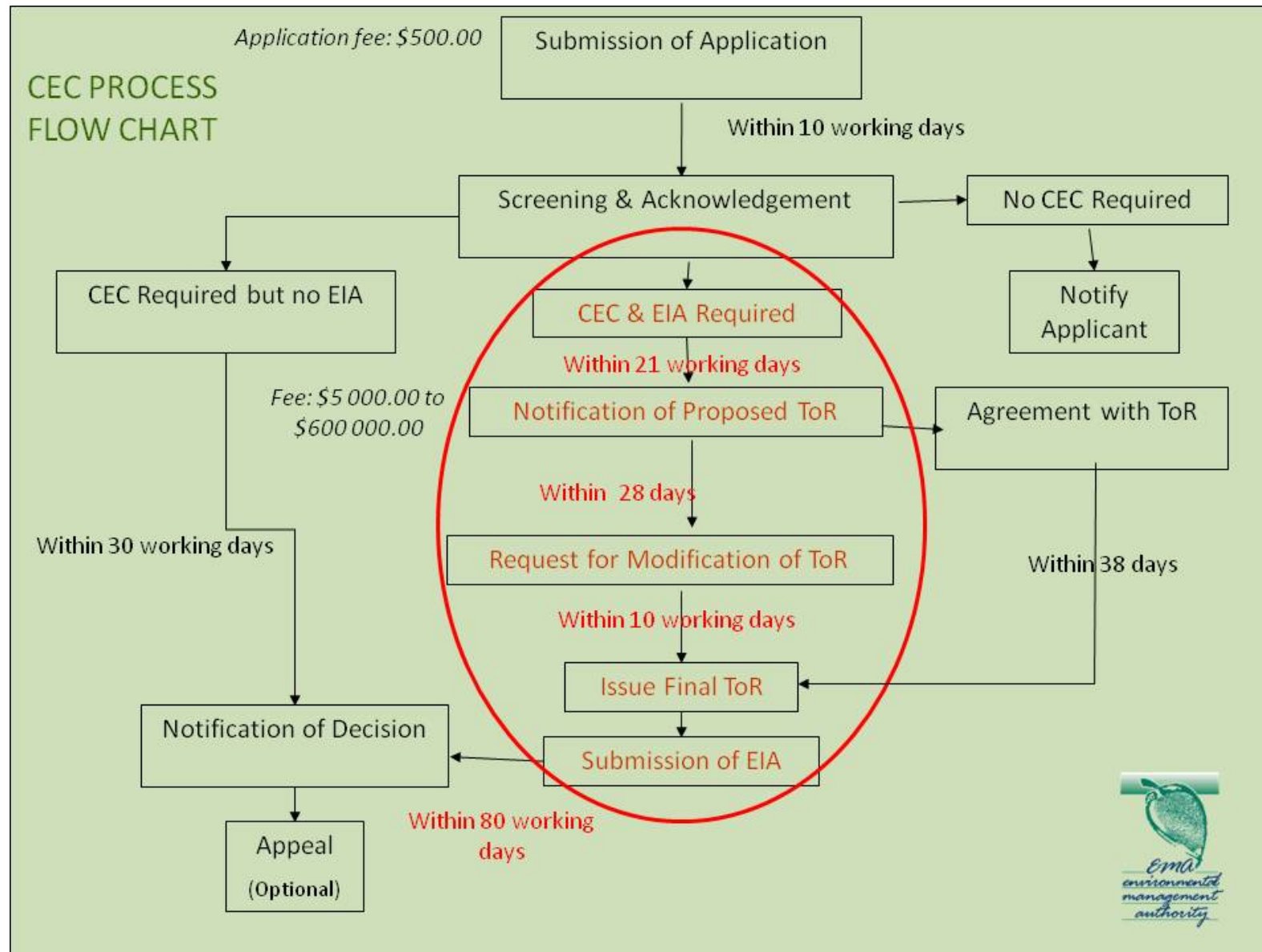
“Given the nature of the [climate change] challenge, which pervades all sectors and impacts on all citizens, the government shall engage with all relevant stakeholders including academia, research institutions, public and private sectors, non-governmental organisations, community based organisations, business and industry organisations and the citizenry at large in developing strategies and approaches to addressing climate change both from a mitigation and adaptation perspective.”

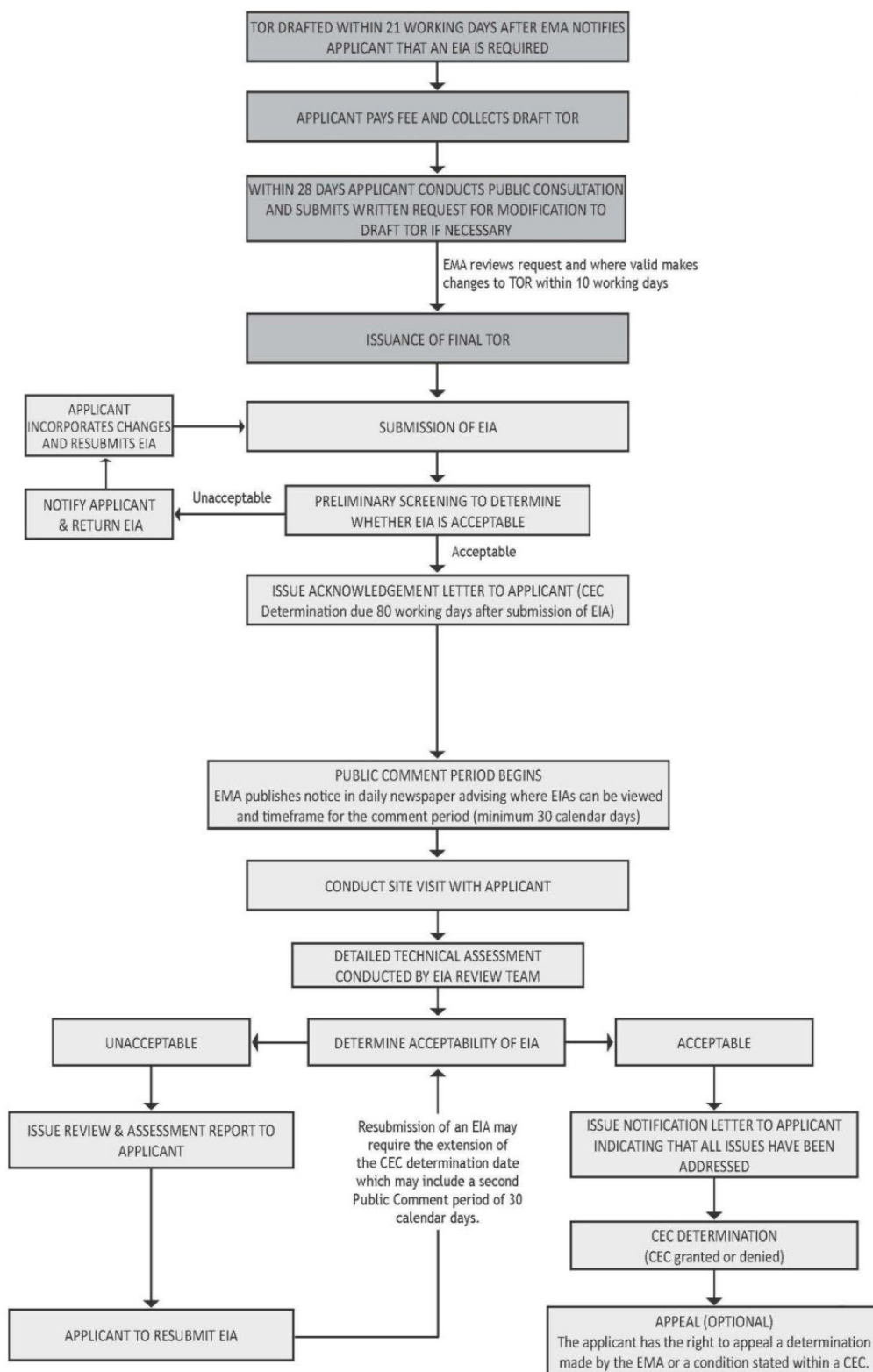
This Principle will be useful in guiding future public participation policies with regard to CCS and any potential project and underscores the importance of the CEC and EIA process as a key regulatory mechanism relevant to a CCS project.





Figure 3 Overview of CEC process (Diagram by EMA)



**Figure 4 Overview of EIA process** (Reproduced from EIA FAQ Booklet)



## 5.2 Land use

### Surface rights and subsurface rights

Although colonised by the Spanish and under their influence for 300 years (1498–1797), the subsequent colonisation by Britain wiped out most of the Spanish legacy in the land tenure and land administration structures. Historical forces have resulted in land holdings being concentrated in the hands of a small number of individuals and corporations, although there remain large areas of land that are owned by the State and leased to private individuals.

Two different Ministries handle land matters in Trinidad and Tobago: the Town and Country Planning Division (TCPD) of the Ministry of Planning and Sustainable Development; and the Ministry of Food Production, Land and Marine Affairs, Land Management Division (LMD). Essentially, TCPD is responsible for approving and providing licences for land use, while LMD is responsible for land ownership issues and granting licences that impact the use of the seabed.

Trinidad allows private ownership of land and the registration of rights of possessions, with land being categorised as State or privately owned. Even if the land is privately held, the State has ownership over the subsurface and pore space in most instances. However, there are significant acreages where land rights, including sub surface rights, were granted to private individuals mainly in the late nineteenth century to early twentieth century. It is legal for these titles (with their subsurface rights) to be bequeathed, however, they cannot be sold. If the land itself is sold, then the subsurface rights will revert to back to the State.

Although Trinidad and Tobago does not have customary tenure, it has ‘family land’ that is similar in some respects (Burns 2007 p41). In many cases, family land was titled a long time ago and handed down from generation to generation without formal documentation. There is some evidence to suggest that there is a strong perception of security of tenure even amongst the squatting community where there would be no documentable evidence of ownership. According to stakeholder consultation with LMD almost 50 per cent of households in Trinidad and Tobago have no documented title to the land on which their home is built. It is an inherent issue of the country’s land administration, largely in Tobago but also in Trinidad. ‘Family land’ differs from indigenous land in Latin America in that structures to deal with functions such as land allocation and conflict resolution are absent (Burns 2007 p41). This being said, land reform is continuing in Trinidad and Tobago and the State *Lands Act 1918* allows for a tribunal to hear all land matters.

The existence of the concept of family land entitlements could have an impact upon an area of land that has been designated appropriate for an onshore CO<sub>2</sub> storage site as it may require a significant amount of time in acquiring land. However, this scenario is unlikely given that the majority of family land situations occur in Tobago and the most likely storage sites are either offshore or fall under the purview of State lands in Trinidad.

### Town and Country Planning Division

Section 9 of the *Town and Country Planning Act* requires that planning permissions be obtained before any development of land is undertaken. Permission is granted from a land use point of view and it is a breach of law and a punishable offence to carry out development in Trinidad and Tobago without planning approval or to perform work that is not in accordance with the permission granted.

An application for full planning permission must be submitted to TCPD. An Outline Approval, i.e. a ‘in-principle’ approval, must first be sought for building operations and for the subdivision of land to reduce the risk of unnecessary expense in the preparation stage. Outline Applications are to be submitted to the TCPD regional office, which will inform an applicant whether the type of development proposed, is consistent with existing land use policy. The Outline Approval also provides an indication of the overall development

standards applicable to the particular site. Should the TCPD grant a positive Outline Approval the next step is for the applicant to apply for full planning permission.

This process is run parallel to the EMA process and the TCPD will need to receive confirmation from the EMA that they have approved the relevant permissions before TCPD can proceed. There is no requirement by law that TCPD must check on approvals, permits and licenses required by other organisations but in practice, relevant government stakeholders will be identified. In specific and individual circumstances, it is possible for an intersectoral committee to be established for major project development application.

Currently, the Government is in the process of finalising new planning legislation (*Planning and Facilitation of Development Bill*) which will shift the majority of the TCPD applications to the Ministry of Local Government. This new legislation will introduce an office of enforcement, which will regulate the development of land for housing, light and heavy industry as well as other sectors. At this point in time TCPD can use the civil courts as an enforcement arm but an independent court has been included in the emerging legislation.

A diagram outlining the TCPD process for approval of a CCS project prepared by a representative of TCPC is shown in Appendix 1.

### **Land Management Division**

All land in Trinidad and Tobago that is not held privately under freehold title is State land. The State owns approximately 26.6 per cent of all terrestrial lands, while 31.6 per cent represents the area under forest reserves and 41.8 per cent being private holdings. State land includes all shoreline below the high water mark and the seabed within Trinidad and Tobago's territorial waters. LMD is responsible for the administration of State land, including the issuing of licenses, rights of way, special permissions, leases and agreements, the service of eviction notices for squatters, as well as advisory and termination notices to tenants in breach of their agreements. LMD is also responsible for the issue of State grants and for the acquisition of privately-owned land for public use.

As noted above, the seabed within Trinidad and Tobago's territorial waters is State land. Any activity that impacts the seabed, such as mining, drilling of wells, installation of pipelines or building of jetties, groynes or breakwaters, or dumping of dredge spoil requires a license from LMD. Applications for licenses to build on or alter the seabed can be made by writing to the Commissioner of State Lands. Further licences must be sought from the MEEA with regard to drilling, mining and pipelines. Reclamation of land from the sea by infilling or draining requires a license from the State issued by the office of the Commissioner of State Lands. Any land reclaimed is State land and requires a lease.

In the event that a Ministry is given a specific CCS mandate, the Commissioner of State Lands has the power to give vested land to the Ministry. Should that land already be leased by a State agency or operator, the land can be de-reserved and provided to the Ministry, with compensation given to the previous leaseholder. The Commissioner of State Lands would play a role in approvals and licenses for the use of State Lands in elements of the CCS chain such as drilling, pipelines and storage sites.

### **5.3 Safety and health**

Occupational safety and health in Trinidad and Tobago is regulated by the Occupational Safety and Health Authority and Agency (OSHA). The Authority and Agency coordinate activities so together they can encourage and enforce the *Occupational Safety and Health Act 2004*, promote training, research, information and to make Regulations and approve Codes of Practice. The *Environmental Management Act 2000* also refers to safety regulation (see Ss 59, 61, 70 and 71).

The *Occupational Safety and Health Act 2004* has a wide scope, which applies to industrial establishments in private and public sectors onshore and offshore to manage the safety, health and welfare in a workplace using legal requirements as a minimum standard. The

underlying regulatory principle of the *Occupational Safety and Health Act 2004* is a 'duty of care', as distinct from a more prescriptive approach to regulation.

OSHA and the EMA are currently working on an agreement to better coordinate project approvals, one suggestion is that the EMA include OSHA in the CEC and EIA draft TOR process to ensure that a suitable occupational safety and health risk assessment are within the scope of the risk assessment. OSHA are entitled to provide input in the CEC process but it is unclear as to what degree and level of involvement OSHA does so. It should be noted that s9(1) of the *Occupational Safety and Health Act 2004* stipulates "(a) be under a duty to take steps within the standards established by the EMA, to protect the safety and health of the public in the vicinity of his industrial establishment from dangers created by the operation or processes carried on therein". In instances where OSHA have input into the EMA processes and can influence the design of an EIA draft TOR they can then act on their duty and be sure that OSHA requirements are included in CEC. In the absence of a coordinated approach between OSHA and the EMA, a project proponent would have to separately apply for any approvals directly to OSHA.

OSHA also has a role to play in the operational phase of a project. The *Occupational Safety and Health Act 2004* requires compliance as opposed to a permit process. Although, this being said, sections 59 and 60 outline various approvals required by the Chief Inspector. Similarly, obligations of an employer are detailed in Section 6 which outlines the general duties of an employer to protect the safety, health and welfare at work of all his employees. Additionally under section 75, the occupier of every factory<sup>3</sup> is required to keep a General Register in the factory that must be available for inspection. This Register also requires that a Fire Certificate is granted from the competent authority. It is through the General Register that compliance is monitored. Industrial establishments are subject to programmed and unprogrammed inspections and an OSHA inspector does have the power to shut down operations (Inspector Powers s72 – 74).

OSHA are in the process of developing two separate regulations; *Control of Major Hazard Accidents*, and *Control of Substances Hazardous to Health*. Depending on the domestic definition of CO<sub>2</sub> for the purposes of CCS, these draft regulations may carry implications for CCS projects.

## 6 ENERGY SECTOR REGULATION

### 6.1 Transportation of CO<sub>2</sub>

Transportation of CO<sub>2</sub> via pipeline could be governed through the *Petroleum Act 1969* and/or the *Pipelines Act 1933*. Additionally, construction of all pipelines is subject to DA 27 of the *Certificate of Environmental Clearance (Designated Activities) Order 2001*, which requires that all infrastructures for pipeline systems obtain a CEC.

The *Pipelines Act 1933* is governed by the MEEA which is authorised to grant licenses under the Act. Section 4 stipulates that the Act regulates "any pipeline, in, along, across, over or under any road, trace, waterway, railway or land..." In terms of liability, section 20 stipulates that the owner of a pipeline is liable to pay compensation for any damage or injury done or caused by the breaking or bursting of any pipeline or by reason of any defect in any pipeline.

The regulation and licensing of hydrocarbon pipelines is provided for in the *Petroleum Act 1969* and the *Petroleum Regulations* and is administered by the MEEA. Licensed activities may include the right to move gas, petroleum, petroleum products or petrochemicals by

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<sup>3</sup> Section 4(1) of *The Occupational Safety and Health Act 2004* defines 'factory' as "premises in which, or within the curtilage or precincts of which, persons are employed, by way of trade, or intended trade, or for purposes of gain, in or incidental to any process...."

This definition may be wide enough to include any place of work, including a CCS project.

pipeline beyond the area of a production in Trinidad and Tobago. These regulations may inform the development of any CO<sub>2</sub> pipeline regulatory activity.

NGC owns and operates a natural gas transmission and distribution network covering approximately 800 kilometres (Ninane et al. 2011 p. 205). This network includes both offshore and onshore pipelines, with all onshore natural gas pipelines owned by NGC. There is no known statutory regulation or government order, which prohibits the construction, ownership or operation of a new natural gas transmission and distribution network in Trinidad and Tobago (Ninane et al. 2011 p. 207).

In the case of State lands, the Minister who manages the *Petroleum Act 1969* is authorised by the President of Trinidad and Tobago to negotiate with persons wishing to obtain land rights to construct a natural gas pipeline. In any other case, negotiations must occur between the potential developer and the person entitled to grant the rights. Land rights can be granted or acquired by a compulsory purchase order (by the LMD) under s28(5) of the *Petroleum Act 1969*. Therefore based on this system, persons wishing to develop CO<sub>2</sub> pipelines may have to negotiate with the appropriate Minister to obtain land rights and pipeline permits.

## 6.2 Oil, gas and mining laws

Subject to certain exceptions, ownership of oil and natural gas reserves is vested in the State, which issues licenses (through MEEA) to explore for and produce oil and natural gas. The *Petroleum Act 1969* and *Regulations* provide that a person shall not engage in petroleum operations unless a licence is first obtained to do so.

MEEA oversees the management of the oil, gas and mineral sectors in Trinidad and Tobago. It is responsible for monitoring, controlling and regulating these sectors (including exploration, drilling and production activities). The MEEA grants licenses pursuant to the *Petroleum Act 1969*, which can be revoked or cancelled by the Minister responsible for energy affairs where the conditions have been breached.

Persons wishing to engage in petroleum exploration and production operations must apply to the MEEA who may issue the following types of licences and contracts:

- an Exploration (Public Petroleum Rights) Licence which grants the licensee the non-exclusive right to carry out the petroleum operations provided by the licence;
  - an Exploration and Production (Public Petroleum Rights) Licence which grants the licensee the exclusive right to explore for, produce and dispose of petroleum in accordance with the terms of the licence;
  - an Exploration and Production (Private Petroleum Rights) Licence which grants the private licensee the exclusive right to explore for, produce and dispose of petroleum in accordance with the terms of the licence; and
  - a Production Sharing Contract for the conduct of petroleum operations relating to the operations relating to the exploration, production and disposition of petroleum within a prescribed area.

The onus is on the potential developer to propose a concept and project design which will then be developed in collaboration with MEEA. As part of this proposal, a potential developer must make a declaration of commerciality. Where a licence is granted and ancillary rights are required by the licensee, the granting of such rights can be sought from the Minister or another authorised person (Ninane et al. 2011 p. 206). Section 26 of the *Petroleum Act 1969* outlines a number of ancillary rights, which may be granted including the right to (amongst others):

- S2(b) Use or occupy the surface for exploration, drilling, erecting installations, and constructing buildings for the purpose of petroleum operations; and

- S3 Enter upon land and to sink boreholes therein for the purpose of searching for and extracting petroleum, and a right to use and occupy land for the erection of buildings, the laying and maintenance of such pipes and the construction of such other works as may be required for the purpose of searching and boring for, and obtaining, carrying away and processing petroleum.

A CEC must be obtained for the carrying out of exploration and production activities. The *Minerals Act 2000* does not apply to any hydrocarbons or petroleum to which the *Petroleum Act 1969* applies.

It should be noted, and as is provided in more detail in the Permitting Matrix, timelines do apply to licences granted under the *Petroleum Act 1969* and *Petroleum Regulations*. For example, Regulation 48(1) prescribes that “exploration operations on a scale that has been agreed between the Minister and the licensee and specified in the licence shall be commenced by the licensee not later than one year from the effective date” failure to do so could result in a termination of the licence at the discretion of the Minister. Similarly, and facing the identical consequence, s49(1) determines “within such maximum period from the effective date as is determined as appropriate and specified in the licence, the licensee shall commence the drilling of at least one well.”

There are a number of oil and gas companies operating in Trinidad and Tobago. Petrotrin and NGC are wholly state owned. Other companies include but are not limited to Atlantic LNG, BP, BHP Billiton, Chevron Texaco, Repsol and Shell.

The regulations and permits above relate to activities in the petroleum industry. These will also potentially apply to a CCS project in two ways. Firstly, they will certainly apply to an oil and gas CCS host project, particularly if it engages in EOR activities. Secondly, the systems already in place for exploration of the subsurface could potentially relate to exploration for storage purposes.

## 7 POWER SECTOR REGULATION

Energy security in Trinidad and Tobago is currently not a significant concern as oil and gas is abundant and electricity prices are the lowest in the Caribbean and second lowest in Latin America. The Regulated Industries Commission (RIC) is a statutory body established under the *Regulated Industries Commission Act 1998*. The RIC came into being in 2001, replacing the Public Utilities Commission, which performed a comparable function since its establishment in 1966. RIC is responsible for regulating the power sector in Trinidad and Tobago. It is a consumer-oriented entity with independent regulatory powers and responsibilities. Three power companies fall under the purview of the RIC, which are Trinidad and Tobago Electricity Commission (T&TEC), Trinity Power and PowerGen. Those Service Providers who had provided certain services before enactment of the RIC Act and which lawfully operated under certain listed legislation as so defined by the RIC Act are deemed to be licensed. The fourth power generation company in the country, the Trinidad Generation Unlimited, is not regulated by the RIC but there is a Power Purchase Agreement between it and T&TEC which sets out the terms and conditions of its supply obligations.

The functions of the RIC are outlined in section 6 of the *Regulated Industries Act 1998*. Amongst others, these functions include to:

- advise the relevant authority on matters relating to the grant of licences for provision of services;
- monitor and enforce compliance with standards which it provides; and
- establish the principles upon which tariffs will be based and monitoring rates charged to ensure compliance.



The RIC is empowered to prescribe standards of service under Section 67(2)(c) under the Act and to monitor the service provider to ensure compliance and to impose sanctions for non-compliance. In this vein, the RIC has established performance standards including the *Quality of Service Standards for the Electricity Transmission and Distribution Sector*. Power sector Service Providers are currently operating without any standardised Codes of Practice. The RIC has suggested some basic guiding principles and whilst not exhaustive are intended to provide a foundation or minimum level of service which can be expanded. Should a Service Provider develop Codes of Practice, these would need to be approved by the RIC.

The RIC is developing licensing conditions which will feed into regulations to be drafted in support of the current legislation. The existing legislation has caused challenges because of its inability to enforce decisions arising out of consumer complaints. The RIC does not have the power to enforce its decisions relating to consumer complaints directly though any provision of the Act. Because of this the RIC largely acts as a facilitator as mandated by legislation. The RIC is able to depend on subsidiary legislation to develop standards and make law through Legal Notices. The standards can then form a part of the terms and conditions of a Service Provider's licence.

In relation to a CCS project, power regulations would apply to a power station host project and largely in relation as to how any extra costs created by the CCS element, such as capture operations, would affect consumer prices.

## 8 GAPS, OVERLAPS AND POLICY ISSUES

The existing regulatory framework within Trinidad and Tobago is well placed to accommodate a CCS project. This is particularly true if the proposed project was to capture CO<sub>2</sub> from an industrial facility (such as an ammonia plant) and piped the CO<sub>2</sub> either offshore or onshore to an existing oil or gas reservoir to be used for an EOR-CCS project. This scenario was identified as a distinct possibility for any initial project (especially as this scenario has been implemented in the past).

That said, there are some important regulatory gaps, overlaps, policy issues and areas of improvement that the Trinidad and Tobago Government need to consider as part of comprehensive and rigorous regulation of CCS. Some of these emerged in drafting the Review, and were reinforced at the second stakeholder consultation workshop.

### 8.1 Regulatory gaps

The key regulatory gaps that emerged are discussed below.

#### Liability

The existing legislative framework does not explicitly address liability for stored CO<sub>2</sub> in the event of leakage. The *Petroleum Act 1969* and the NOSCP places the duty of environmental responsibility on the operator. This provides a sound precedent for placing the liability during the operation of a project and shortly after decommissioning on the operator; this is generally the approach taken in CCS regulation developed in other countries. In the absence of any explicit regulation, any liability requirements could be captured in a CEC obligation issued by the EMA. In theory, there is nothing to prevent even long-term storage obligations (if placed on the operator) being addressed under a CEC obligation issued by the EMA. Another possibility could include dedicated legislation and regulation.

Trinidad and Tobago also needs to consider how to manage long-term liability. Some jurisdictions that have developed CCS regulations (e.g. Australia and the European Union) propose transferring liability after a period of time and after certain conditions have been met from the project proponent to the State. In other jurisdictions the liability remains with the operator in perpetuity (e.g. the State of Wyoming in the USA). In considering the options

for management of long-term liability there are some key issues that will need to be considered. These issues include, but are not limited to: any MMV and/or remediation requirements that are the responsibility of the project proponent either in perpetuity or before liability transferred to the State; the lifespan and legal structure of a private company compared to that of the State may have implications on what's practical including any compensation bond requirements etc.

### **Injection of CO<sub>2</sub> into non-hydrocarbon reservoir**

The activities associated with injecting CO<sub>2</sub> (specifically exploration and characterisation of a storage site, drilling and injecting) into a hydrocarbon reservoir (whether this is a depleted oil and gas reservoir or for EOR purposes) would be regulated by MEEA under the existing oil and gas regulations and license requirements. However, it is not clear whether injection into a saline aquifer which was *not* located within a petroleum acreage would fall under the MEEA's regulations. There is therefore a gap for certain storage-related activities (the storage site exploration and characterisation, drilling and injecting) for this particular non-hydrocarbon related CCS project configuration.

With this gap identified, the question was raised in the workshop held on 12 September 2012 as to who the appropriate regulatory authority would be. MEEA may still be the most appropriate authority in this circumstance given that they have the experience in regulating similar activities.

Although a gap, it was noted by stakeholders, that this type of CCS activity would be unlikely, at least in the first instance. It is more probable that first mover CCS projects would be stored in a hydrocarbon reservoirs (either depleted oil and gas reservoirs or for EOR purposes) given there is more storage data available for these sites. So although this does represent a gap, it was not considered particularly high risk at this point in time.

### **Designated activities**

It was the consensus of stakeholders that the Designated Activities (DAs) were sufficiently broad enough to capture the activities of a CCS project, particularly if the technology was retrofitted to existing sources, and/or associated with a new or existing EOR project. The DAs have been designed so that any associated activities to the main activity can be covered by a CEC. Since the *Certificate of Environmental Clearance (Designated Activities) Order 2001* came into effect no new DAs have been added.

Nevertheless, there is one conceivable CCS project configuration that may not be covered by the existing DAs listed in the *Certificate of Environmental Clearance (Designated Activities) Order 2001*. The current DAs might not apply where CO<sub>2</sub> is captured from a naturally occurring source, potentially for a project that demonstrates storage capability. However, even in this very specific scenario, assuming the CO<sub>2</sub> is piped to a storage site, the pipeline would be covered by a CEC, and EMA has the ability to consider a project holistically (i.e. even though a CEC would be assessed and issued for a pipeline specifically, the impact of the integrated project can be assessed as part of this).

Nevertheless, as previously noted, for the purposes of administrative ease the possibility exists to nominate CCS activity as a specific DA.

### **Pipelines**

At this stage, the *Pipelines Act 1933* does not specifically refer to CO<sub>2</sub>. An amendment to the Pipelines Act to specifically include CO<sub>2</sub> pipeline would ensure that the construction and operation of CO<sub>2</sub> pipelines could be accommodated effectively within the existing regulatory framework.



## Competition for acreage

There is potential for storage of CO<sub>2</sub> to compete with other subsurface uses, such as hydrocarbon production. The current legislative framework does not provide any guidance on competing rights between different users. This may become a greater issue in time.

These gaps are highlighted in the Permitting Matrix.

## 8.2 Overlaps

The Permitting Matrix clearly demonstrates that there are a number of approvals and licences that would be required for a CCS project. It is likely that a CCS project would approvals/licences from at least the following organisations:

- Environmental Management Authority;
- Ministry of Energy and Energy Affairs;
- Occupational Health and Safety Authority and Agency;
- Land Management Division; and
- Town and Country Planning Division.

These organisations acknowledge that at least some of the information required from a project proponent is often the same for each organisation, but may be required to be provided in a different format on a different form, and/or with a slightly different focus. Risk assessments were identified as a good example of the latter. Both EMA and OSHA require risk assessments, but one has an environmental focus, the other a health and safety focus. A risk assessment done for EMA might not exactly satisfy the requirements of OSHA, requiring the project proponent to produce a similar risk assessment a number of times.

The Matrix also identifies the significant time periods that are involved in seeking all the licences and approvals. Some of these licences and approvals can be sought concurrently, but others are dependent on the CEC, and therefore the timeframe required to seek all the licences and approvals could be significant.

This situation is further complicated for a CCS project, where operators of different aspects of a CCS project (i.e. capture, transport and storage) may need to seek approvals separately. The delay in one aspect of the project could hold up the whole project.

## 8.3 Policy issues and areas for improvement

The overlaps and long timelines identified above gave rise to almost all stakeholders identifying the need to have a more coordinated approach to the approval/licence process. There were a number of suggestions of how this could be practically implemented. The EMA and CEC/EIA process is a potential focus for greater coordination. Another suggestion was to have Intergovernmental Project Committees with representatives from all the regulatory bodies with an identified coordinator between the Committee and the project proponent. Stakeholders commented that the EMA, OSHA and TCPD were in the process of considering some possibilities as to how the regulators could better streamline current processes.

A pertinent comment made was that although a project could indeed occur within the bounds of the existing framework, due to the number of permits and licenses required, it may be more timely and cost effective to create either project specific or CCS specific legislation that would address administrative issues as well as key CCS issues such as acreage rights. This could be administered by one authority.

Other key policy issues that were raised are detailed below.

## CCS criteria

MMV requirements are not only necessary for good management of a CCS project, but they will be crucial to provide public confidence in a CCS project. MMV requirements will also be

the existing vehicle by which to address international obligations which are not enacted in domestic legislation. They may also be the mechanism by which international agreements are realised in domestic law as they pertain to a CCS project.

MMV requirements would currently be enforced under the CEC obligations. Consideration must be given to exactly what these MMV requirements would be for Trinidad and Tobago, or what standards would be adopted.

Akin to setting MMV criteria it is similarly crucial to set site selection and decommissioning criteria to ensure safety, project success and to fulfill good practice standards. As noted above, these criteria could be managed through the CEC process. That being said, in order to ensure proper regulatory compliance, it may be useful to form a clear, standardised code for project site selection, MMV and project decommissioning.

### **Public participation**

NGOs and individual members of the public generally have limited expertise in the impacts of CCS projects and this may lead to public consultation exercises being rendered somewhat ineffective in so far as the contributions of stakeholders are concerned. There is need therefore to provide workshops and access to technical expertise both to regulatory bodies and the public so as to ensure that CCS projects are properly implemented.

### **Organisational expertise**

A further potential challenge in Trinidad and Tobago as identified by Narinesingh, Ramlogan and Company is the absence of expertise embedded in administrative bodies vested with responsibility to grant permits and licences in CCS related projects. Without the “know how” the social and environmental consequences of CCS projects may not be properly assessed so as to ensure the implementation of appropriate mitigation measures where necessary.

This also holds true in the operational phase of a project. A regulator needs the necessary expertise to adequately assess and enforce licence or CEC obligations. This assumes not only CCS specific expertise but organisational capacity to properly regulate and enforce an operational project. CCS knowledge and awareness does exist in many of the relevant regulatory agencies but this knowledge may only exist in individuals or small pockets of organisations. It would be beneficial for this information to be shared with a wider audience. Target training sessions or wider workshops may be useful in this respect.

It should be noted that the EMA can draw upon input from international experts; assessment expenses are usually passed onto the applicant, which goes some way in addressing funding constraints. Nevertheless in-country expertise will need to be developed if CCS was going to be introduced as an important CO<sub>2</sub> mitigation technology.

## **9 CONCLUSION**

An analysis of Trinidad and Tobago’s existing legal and regulatory framework demonstrates that, as a result of a thriving oil and gas industry, the country is well placed to accommodate a CCS project. *The Environmental Management Act 2000, The Petroleum Act 1969 and The Pipelines Act 1933* are key pieces of legislation that will impact on any CCS law, whether it be built into existing legislation, or if new legislation is created. The analysis demonstrates that under the existing model, primarily through the MEEA and the EMA processes, a project could be legally permitted and regulated throughout its lifecycle. Essentially, this could be achieved by utilising a CEC approval process to outline and determine the various obligations deemed necessary by relevant authorities. However, if these existing regulatory mechanisms were to be utilised, Trinidad and Tobago would have to develop or adopt specific site selection, MMV, and decommissioning criteria that could be incorporated within the CEC approval process.

Stakeholder consultations highlighted that regulatory agencies do interact with each other in some cases. However, in order to effectively and efficiently manage the permitting of a CCS project, strong and regular interactions and coordination between agencies will be necessary.

Various gaps and overlaps have been identified in the analysis and Permitting Matrix could be addressed through more targeted legislation. However, one key barrier appears to be the time it may take for a piece of legislation to complete governmental and parliamentary processes. Thus, if a CCS pilot or demonstration project is currently under consideration, it may be more timely to approach permitting approvals within the existing framework.

It is clear that much of the technical, policy and regulatory expertise to legislate a CCS project already exists in Trinidad and Tobago despite that, this expertise may lie with a relatively small number of individuals. In saying this, there is capacity for legislative developments to be undertaken in the near future.

There are many CCS regulatory issues to be considered in the development of a robust CCS regulatory regime. However, based on the analysis and consultation undertaken for this Review, a number of issues have emerged as 'fore-running' issues that should be considered in the first instance. It is recommended that the Trinidad and Tobago Government give further consideration to the following policy and related issues pertaining to the regulation of a CCS project in Trinidad and Tobago:

1. management of long term liability of stored CO<sub>2</sub>;
2. potential inclusion of CCS as a specific Designated Activity under the *Certificate of Environmental Clearance (Designated Activities) Order 2001*;
3. specific inclusion of CO<sub>2</sub> pipelines under the *Pipelines Act 1933*;
4. mechanisms for greater coordination in the permitting of a CCS project;
5. benefits of project specific Act or stand alone legislation as an efficient and effective way to coordinate the permitting of a CCS project, compared to integration of requirements into existing framework;
6. development of site selection, MMV and decommissioning criteria for a CCS project; and
7. development of CCS expertise in relevant regulatory authorities.

## 10 PERMITTING MATRIX

See Appendix 2.

The Permitting Matrix identifies which current regulatory instruments may be required in an approval of a CCS project. Please note that not all of the regulatory instruments that have been identified in the Permitting Matrix apply to all possible CCS projects. The relevant instruments will be determined by the scope of the proposed CCS project. For example, the location of the storage aspect of the project (i.e. onshore or offshore) will determine which instruments come into play.



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## LIST OF ACRONYMS

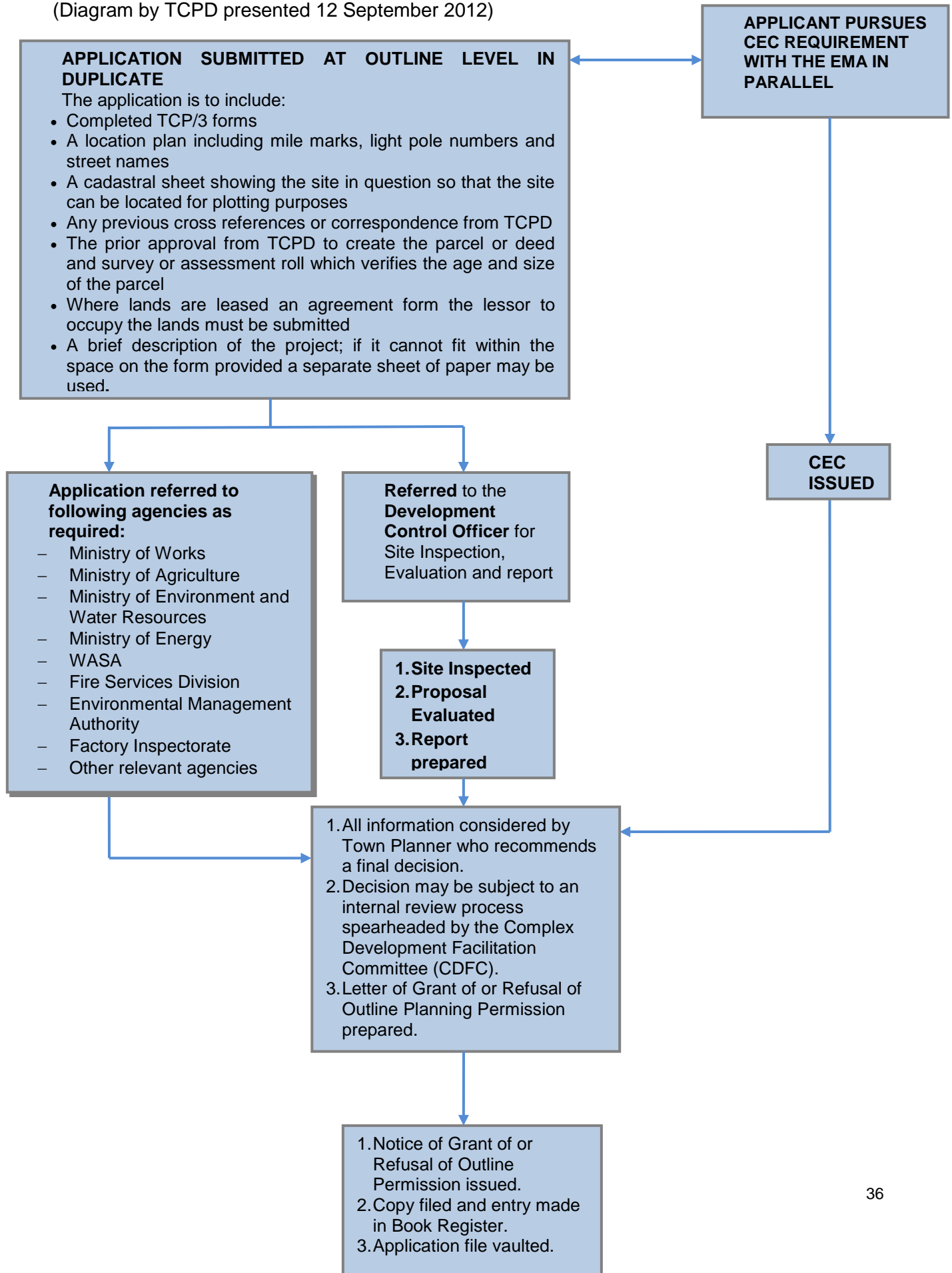
Acronym	Full Title
AOSIS	Alliance of Small Island States
ASC	Association of Caribbean States
BCRC	Basel Convention Regional Centre
CARICOM	Caribbean Community
CCJ	Caribbean Court of Justice
CCS	Carbon Capture and Storage
CEC	Certificate of Environmental Clearance
CO <sub>2</sub>	Carbon Dioxide
COP	Conference of the Parties
CRS Task Force	Carbon Reduction Strategies Task Force
DA	Designated Activities
EIA	Environmental Impact Assessment
EOR	Enhanced Oil Recovery
EMA	Environmental Management Authority
FAQ	Frequently Asked Questions
GHG	Greenhouse Gas
IDB	Inter-American Development Bank
IMA	Institute of Marine Affairs
LMD	Land Management Division
LNG	Liquefied Natural Gas
MEEA	Ministry of Energy and Energy Affairs
MEWR	Ministry of Environment and Water Resources
MMV	Monitoring Measurement and Verification
NCCP	National Climate Change Policy
NGC	National Gas Company
NOSCP	National Oil Spill Contingency Plan
OSHA	Occupational Safety and Health Authority
Petrotrin	Petroleum Company of Trinidad and Tobago Ltd
RIC	Regulated Industries Commission
RP	Responsible Party
SCE	Cabinet Standing Committee on Energy
SIDS	Small Island Developing States
T&TEC	Trinidad and Tobago Electricity Commission
TCPD	Town and Country Planning Division
THA	Tobago House of Assembly
TOR	Terms of Reference
UNFCCC	United Nations Framework Convention on Climate Change



## APPENDIX 1

### TOWN AND COUNTRY PLANNING APPROVAL PROCESS

(Diagram by TCPD presented 12 September 2012)







## APPENDIX 2

### PERMITTING MATRIX

PERMITTING MATRIX AS PERTAINS TO CARBON CAPTURE AND STORAGE IN TRINIDAD AND TOBAGO

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TABLE 1.1: CAPTURE - DESIGN AND CONSTRUCTION

Permit	Area covered	Legal provisions	Competent authority	Timeline	Work needed to complete submission	Potential legislative amendment	Comment
Licence	Design and Construction - Construction and Planning	Petroleum Act (Chap 62:01): ss 9, 12; Petroleum Regulations: rr 3 (1), 6, 7, 8, 9, 10, 11, 12, 13	Minister of Energy	6 months	Exploration Licence; Exploration and Production (Public Petroleum Rights) Licence; Exploration and Production (Private Petroleum Rights) Licence; Refining Licence; Liquefaction of Natural Gas Licence; Pipeline Licence; Transportation (other than by pipeline) Licence; Product Sharing Contract or Marketing Licence; Petrochemical Licence; Compressed Natural Gas Licence is required to engage in petroleum operations on land or in a submarine area. Application for a licence to be made in writing to the Minister and shall contain particulars as to (a) the name, nationality, place of business and nature of business of the applicant and, if the place of business is outside Trinidad and Tobago, the name, nationality and residence of a duly authorised agent in Trinidad and Tobago; (b) type of licence for which application is made; (c) in relation to applications for a Refining Licence, the project of all the refining installations proposed with all necessary supporting plans and exhibits, including a site plan in respect of the refining and auxiliary installations, together with evidence that such planning permission as may be necessary under the Town and Country Planning Act has been granted; (d) in relation to; (i) the construction of new retail marketing stations; or (ii) any substantial modifications to an existing station, that prior permission has been obtained from the appropriate authorities and submitted to the Minister, ensuring compliance with all the statutory provisions in respect of traffic, town and country planning, public health and other relevant written laws (e) where applicable, a description of the site or project, as the case may be, illustrated by a plan or map to be prepared to such scale as the Minister may require, of the situation, boundaries and area of the parcels of land and such other particulars as may be required in order to identify them; (f) where applicable, a description of the operation intended to be carried out including the methods to be used, the capacity of the plant and nature of products produced, and a copy of the relevant feasibility study and a statement indicating the source or sources from which the petroleum or products, or both, will be obtained and analyses of these substances; (g) a statement of the capital investment involved and evidence, in such detail as the Minister may require, as to the applicant's financial and technical competence for undertaking the operation applied for, and his ability to obtain the requisite personnel and equipment; (h) in relation to applications for a licence under regulation 3(1)(h)(iii), any relevant agreement between the applicant and the Marketing Licensee for wholesale operations; (i) in relation to applications for a Pipeline Licence for the installation and operation of a new trunk pipeline, the route, the	Amendment of Petroleum Act to create a licensing system for CO <sub>2</sub> capture, transport and storage.	

Permit	Area covered	Legal provisions	Competent authority	Timeline	Work needed to complete submission	Potential legislative amendment	Comment
					<p>length, the diameter and other particulars (to be shown on a map) of the proposed pipeline, its boundary lines, the names of the owners of the land over which it would pass, the location of pumping and terminal stations and their capacities, the estimated cost of construction and such other information as may be necessary in order to make clear the purpose and the nature and specifications of the pipeline.</p> <p>An application for an Exploration and Production (Private Petroleum Rights).</p> <p>Licence shall contain the registered numbers of the documents evidencing title to the Private Petroleum Rights concerned. The holder of an Exploration and Production Licence or a Refining Licence is required to apply for a Pipeline Licence only if the pipeline which he proposes to lay extends beyond the area covered by his licence.</p> <p>Where any length of a pipeline is to be laid along or across a road, waterway or railway, or upon or under the surface of the sea or in the vicinity of a harbour, the Minister shall consult with the appropriate Government Ministry or Department or Statutory Authority with a view to ensuring that the road, waterway, railway, sea or harbour is not thereby rendered unsafe, contaminated or polluted.</p> <p>On receipt of an application for a licence in respect of any petroleum operation, the Minister shall cause notice of such application when published in the Gazette to be sent to the District Revenue Officer of such Ward or Wards to which the application relates.</p> <p>The notice shall be exhibited for three weeks in a conspicuous place at the office of the District Revenue Officer.</p>		
Approval	Design and Construction - Construction and Planning	Petroleum Act (Chap 62:01): s12	Minister of Energy	3 months	Permission required from Minister to carry out a topographical or other survey to construct a pipeline for the purpose of conveying petroleum or petroleum products or other substances with a view to selecting the route of the proposed pipeline.	Amendment to specifically include CO <sub>2</sub> pipelines	
Application	Design and Construction - Construction and Planning	Petroleum Regulations (Chap 62:01): s 39 (1) - (2)	Minister of Energy	3 months	Application to Minister to occupy a parcel of State Lands reasonably necessary for the purpose of carrying out submarine operations. Lease to be granted for surface rents. Where lands are privately owned the licensee shall take steps to secure the grant of the lease with the private owner.		

Permit	Area covered	Legal provisions	Competent authority	Timeline	Work needed to complete submission	Potential legislative amendment	Comment
Certificate	Design and Construction - Construction and Planning	Petroleum Act and Petroleum Regulations (Chap 62:01)	Ministry of Energy	3-6 months	<p>Requirement with regards to energy based facilities to obtain a Certificate of Fitness of Purpose and status of ‘Operational Preparedness’ from the Ministry of Energy prior to the start up of operations.</p> <p>Involves notification to the Ministry of Energy of completion of design and construction phase and subsequent inspection by representatives of Ministry of Energy and/or Certified Verification Agents.</p> <p>‘Fit-for-purpose’ relates to verifying that all related hardware and software systems and components that constitute the facility were properly designed, built, integrated together and tested for acceptance to ensure that the final facility is capable of delivering the required HSE and/or economic performance expectations.</p> <p>Activities in this phase include review of EIA report, Risk Assessment, supporting Front End Engineering Design (FEED) studies, modelling studies, etc. It involves four phases being planning verification, design verification, construction verification and commissioning verification.</p> <p>‘Operational Preparedness’ relates to verifying that the status of the elements of the management system for facilitating proper human interface and control of the facility prior to start up and during operations.</p> <p>Elements to be evaluated for Operational Preparedness verification shall include but not limited to:</p> <ol style="list-style-type: none"> <li>1. Designated command-in-chain authority and Accountability</li> <li>2. Training and competence</li> <li>3. Operational procedures</li> <li>4. Contingency and emergency response preparedness</li> <li>5. Asset integrity management</li> <li>6. Permit to work systems</li> </ol> <p>Approval of a new energy based facility is granted for the final as-built facility and is issued after verification of all development stages to validate Fit-for-Purpose and confirmation of duty holder Operational Preparedness to commence operations.</p> <p>The Ministry of Energy may rely on the services of an independent competent body, called Certified Verification Agent (CVA) in the Approval Regime, to assist in the verification functions of the approval process.</p>		
Guidelines	Design and Construction - Construction and Planning	Petroleum Act and Petroleum Regulations (Chap 62:01)	Ministry of Energy	3-6 months	<p>Minister of Energy has powers under the Petroleum Act and its Regulations to issue guidelines to meet the objective of the Act. Guidelines issued include: Guide to the Approval Regime for</p>		

Permit	Area covered	Legal provisions	Competent authority	Timeline	Work needed to complete submission	Potential legislative amendment	Comment
					Energy Based Facilities; Role of the Certified Verification Agent in Approval Regime; verification scheme for offshore structures; verification scheme for pipeline systems; verification scheme for hydrocarbon production and processing facilities.		
Approval	Design and Construction - Construction and Planning	Regulation 43(b),Petroleum Regulations 1971	Ministry of Energy	3-6 months	Require approval from the Ministry of Energy for any intended new built energy based facility and associated infrastructure		
Approval	Design and Construction - Construction and Planning	Regulation 92, Petroleum Regulations 1971	Ministry of Energy	3-6 months	Require approval from the Ministry of Energy for any intended modification to an existing energy based facility and associated infrastructure that ultimately change the functional purpose and performance expectations		
Licence	Design and Construction - Construction and Planning	Pipelines Act (Chap 35:51): s 4	Chief Technical Officer/ Chief Executive Officer of Municipal Corporation/ Commissioner of State Lands or relevant Minister	3 months	Licence required to lay or connect any pipeline in, along, across, over or under any road, trace, waterway, railway or land vested in the State. Licence to lay pipelines in the case of any main road or water way shall be made to Chief Technical Officer (Works). Licence to lay pipeline in the case of any public road or state trace which fall under the purview of a municipal corporation, the application shall be submitted to the chief executive officer of the appropriate municipality. Licence to lay pipeline in the case of any state lands shall be made to the Commissioner of State Lands.	Amendment of Pipelines Act to include transport of CO <sub>2</sub>	
Licence	Design and Construction - Construction and Planning	Continental Shelf Act (Chap 1:52): s 3(1) - (3)	Minister with responsibility for external affairs/ Port Authority of Trinidad and Tobago	30-45 days	Application for licence from Minister to carry out activities (other than those related to petroleum in a submarine area) with respect to the seabed and subsoil and their natural resources; Consent of Port Authority to the carrying out works on any part of the seashore if obstruction or danger to navigation is likely to result.		
Notice/Deed/ Instrument	Design and Construction - Construction and Planning	Land Acquisition Act (Chap 58:01): s3 (1) - (5)	Commissioner of State Lands	90 days	Status and Title searches are carried out to determine if desired land falls under state or private ownership. If the land is state owned, it can be reserved for the particular purpose but if private, it needs to be acquired. Acquisition of private lands for public purpose requires notice of acquisition of lands signed by the Secretary to the Cabinet to be published in the Gazette, daily newspapers and personally on persons who have an interest in the lands to be acquired. Where no objections or representations are made, surveys to be conducted by Commissioner of State of Lands and to investigate whether lands are fit for the intended purpose. President may formally vest the lands in the State on resolution by Parliament or may by Order allow Commissioner of State lands to enter into possession.		This process and timeframe can vary significantly depending on the location of the state lands to be acquired and whether information is already held by Commissioner of State Lands on the relevant parcels of land.



Permit	Area covered	Legal provisions	Competent authority	Timeline	Work needed to complete submission	Potential legislative amendment	Comment
Certificate of Environmental Clearance	Design and Construction - Environment, Construction and Planning	Environmental Management Act (Chap 35:05); Certificate of Environmental Clearance Rules, 2001 and Certificate of Environmental Clearance (Designated Activities) Order 2001: rr 3, 4, 5, 6	Environmental Management Authority	Variable (41-365 days)	<p>Submission of Application for Certificate of Environmental Clearance (CEC) to the Authority.</p> <p>Application should contain name and business address of applicant, identification of designated activity and location of proposed activity, purpose and objectives of the proposed activity, description of the site, areas likely to be affected by the proposed activity, size and scale of the proposed activity, description of activity explaining the type of equipment and machinery to be involved, the type, quantity and sources of input materials, the quantity and destination of any by products and waste, modes of transportation to carry out the proposed activity, potential effects of such transportation, volume of intermediate and final products, frequency and rate of extraction with respect to use of natural resources, expected life of the activity, proposed schedule of action, maps, diagram and illustrative graphic material.</p> <p>Authority acknowledges receipt within 10 days notifying applicant whether a CEC is required or requires further information including an Environmental Impact Assessment (EIA).</p> <p>If an EIA is required within 21 days of notification, the Authority will prepare a draft Terms of Reference. Applicant within 28 days of notification of issuance of draft Terms of Reference to submit comments on the proposed draft Terms of Reference for EIA.</p> <p>Authority finalise draft TOR within ten days after expiration of 28 day comment period.</p> <p>If application does not require an EIA, Authority will grant or refuse CEC after 30 days of notice of acknowledgement or receipt of further information where applicable.</p> <p>If application requires an EIA, Authority will grant or refuse CEC after 80 days after receipt of EIA by the applicant. Authority may request an extension of time to make a determination to grant or refuse CEC where necessary.</p>	Amend Certificate of Environmental Clearance (Designated Activities) Order 2001 to cover CO <sub>2</sub> capture, transport and storage.	<p>Designated activities would cover the main project activity (e.g. enhanced oil recovery; power generation; ammonia) but does not specifically regulate CO<sub>2</sub> capture, transport and storage as a separate activity.</p> <p>Form A used to apply for Certificate of Environmental Clearance. Discretion of the Environmental Management Authority to require an Environmental Impact Assessment.</p>
Noise Variation Permit	Design and Construction - Environment, Construction and Planning	Environmental Management Act (Chap 35:05); Noise Control Pollution Rules 2001: rr 9, 10	Environmental Management Authority	45 days	<p>Application for noise variation permit (generate noise levels above prescribed limits) for facility.</p> <p>Applicant to publish in one national daily newspaper for two consecutive days at least once calendar week before submission of application for variation.Application to be submitted at least four weeks before commencement of activity (new activities).</p> <p>Application to include: name of applicant, address of applicant, contact information, type of activity, company information, time and duration of sound being generated, description of noise, proposed</p>		There are three designated zones, General Areas, Environmentally Sensitive Areas and Industrial Areas. Activities related to CO <sub>2</sub> Capture will likely fall within Industrial Areas.

Permit	Area covered	Legal provisions	Competent authority	Timeline	Work needed to complete submission	Potential legislative amendment	Comment
					mitigation measures, nature or process which generates sound, sources of noise, description of location, map or plan, proof of advertisement of intention to apply for a noise variation permit.		
Source Registration/ Water Pollution Permit	Design and Construction - Environment, Water, Construction and Planning	Environmental Management Act (Chap 35:05); Water Pollution Rules, 2001: rr 4, 6, 7	Environmental Management Authority	10 days	<p>Source Registration to be submitted 45 day prior to release, where release of water pollutant is above prescribed standards. Registration to be submitted in triplicate to the Authority for each facility. Include company information; mailing address; location of facility; description of process or activity generating the release; age, energy use and water use of the facility; existing or proposed volumetric release rates; effluent quality monitoring data; indication whether facility is proposed or in existence; indication whether approvals are required under written law and have been obtained; topographic map of area; description of any water pollution control programme and description of receiving environment. Authority may request further information from Applicant.</p> <p>Within 10 working days of receipt of application or further information the Authority will issue Certificate of Source Registration.</p> <p>Application for renewal to be made within at least 30 working days before expiration of Certificate of Source Registration.</p> <p>Authority may in its own discretion require a water pollution permit to be submitted within 30 days of receipt of notice. An application for permit shall include company information, map, and identification of receiving bodies of water, environmental studies and water pollution control programmes.</p>		The Water Pollution Rules 2001 regulates the release into the environment of 29 substances deemed pollutants. A review should be undertaken to develop a list of potential water pollutants from CCS projects. Where water pollutants identified are not regulated under the Water Pollution Rules 2001, the Rules should be amended accordingly.
Licence	Design and Construction - Construction and Planning	State Lands Act (Chap 57:01): ss 25, 28	Commissioner of State Lands	3 months	Licence to dig or win or remove, or is in any material on or from any State Lands in Trinidad and Tobago. Application to be made to persons designated by the President. While permission is needed from the Commissioner of State lands, a final decision is not made without his consultation with the Ministry of Energy and Energy Affairs.		
Planning Permission	Design and Construction - Construction and Planning	Town and Country Act (Chap 35:01): ss 8, 11	Town and Country Planning Division	3 months - 1 year	Outline permission and Final Planning permission for the development of land in Trinidad and Tobago. Application to be made to the Town and Country Planning Division. Application to include information relating to any previous applications for planning permission; nature of development; name of applicant; address of applicant, proof of ownership; location of land; sketch plan; statement as to buildings on site and intended use of existing or proposed building; site area; floor area; services and amenities available on site; surface drainage; sewage.		

Permit	Area covered	Legal provisions	Competent authority	Timeline	Work needed to complete submission	Potential legislative amendment	Comment
Licence	Design and Construction - Construction and Planning	Trinidad and Tobago Electricity Commission Act (Chap54:70): ss 31(3); s34	Trinidad and Tobago Electricity Commission	2 months - 1 year	<p>Licence required from the Trinidad and Tobago Electricity Commission (T&amp;TEC) to permit an approved generator of electricity the non-exclusive right to supply electricity. Licencee must be an approved generator of electricity (declared by Order and with the approval of the Minister).</p> <p>License to generate electricity for public or member of the public and for installation and operation of a standby generator. Application for licence for standby generator involves:</p> <p>(a) Completion and return to T&amp;TEC’s Head Office, application forms 1A/GenL, 1B/GenL, 1D/GenL and the first schedule attached to the form of licence which is issued by T&amp;TEC on request.</p> <p>(b) T&amp;TEC assesses the application in respect of the technical details pertaining to the supply of electricity.</p> <p>(c) A recommendation to grant the licence is made by T&amp;TEC to the Ministry of Public Utilities.</p> <p>(d) The Minister of Public Utilities would grant or not grant the licence to be issued subject to the provisions of the Trinidad and Tobago Electricity Commission Act Ch. 54:70.</p> <p>(e) If the licence is granted, notification in writing that the issue is conditional upon T&amp;TEC being satisfied that the generator and required changeover device have been properly installed and inspected by the Government Electrical Inspectorate, who would then issue an inspection certificate.</p> <p>(f) Submission to T&amp;TEC a sketch of the circuit diagram of the changeover arrangement, the serial number of the generator and changeover switch and the inspection certificate.</p> <p>(g) T&amp;TEC inspection of the installation before the licence is issued.</p> <p>(h) The licence is granted for a specified period, usually five (5) years. Should renewal be required the installation must again be inspected and a certificate produced to T&amp;TEC before a renewal is issued.</p> <p>(i) Installations must be inspected every five (5) years and a copy of the inspection certificate provided to T&amp;TEC.</p>		
Notice	Design and Construction - Construction and Planning	Pipelines Act (Chap 35:51): ss 7, 8	Private land owners	3 months	Notify owners of lands held privately of intention to construct pipeline at least two days prior to commencement. Serve within six weeks of entry a statement of particulars regarding the description and proposed location of pipeline and a notice requiring the owner to execute a deed or instrument of assent. A comprehensive plan of survey of a completed pipeline system shall be attached to the deed or instrument registered.		
Fire Certificate	Design and Construction - Construction and Planning; Health and	Occupational Health and Safety Act (Chap 88:08): s 26 (1) - (2)	Chief Fire Officer, Trinidad and Tobago Fire	14-21 days; Interim approval after inspection of premises: 90-	Fire Certificate issued by Fire Authority establishing premises as being provided with such means of escape in the case of fire for the persons employed therein as may reasonably be required.		This process can vary significantly depending on whether the facility or premises meet the

Permit	Area covered	Legal provisions	Competent authority	Timeline	Work needed to complete submission	Potential legislative amendment	Comment
	Safety		Services	180 days. Certificate is finalised when building is actually occupied.			requirements of the Chief Fire Officer or measures need to be implemented to meet the requirements.
Certificate	Design and Construction - Construction and Planning; Health and Safety	Occupational Health and Safety Act (Chap 88:08): s 57 (1) (a)	Chief Inspector, Occupational Safety and Healthy Authority and Agency	2-4 weeks	Certification of suitability of premises for storage or use of explosive or highly flammable substances.		
Approval	Design and Construction - Construction and Planning; Health and Safety	Occupational Health and Safety Act (Chap 88:08): s 59	Chief Inspector, Occupational Safety and Healthy Authority and Agency	2-6 weeks	Approval of the Chief Inspector is required for - (a) the construction of any new factory or warehouse; (b) the reconstruction of any existing factory or warehouse or the extensive installation of any new plant or machinery therein; or (c) the alteration, modification or changes in the existing plant or machinery which is likely to change significantly the working environment in a factory or warehouse.		
Certificate	Design and Construction - Construction and Planning	Municipal Corporations Act (Chap 25:04): s 161	Chief Engineer of relevant Municipal Corporation	180 days	Certification of new building by Engineer.		
Approval	Design and Construction - Construction and Planning	Municipal Corporations Act (Chap 25:04): s 169	Chief Executive Officer of relevant Municipal Corporation	180 days	Approval to construct building over drain, ravine or storm water channel.		
Notice	Design and Construction - Construction and Planning	Municipal Corporations Act (Chap 25:04): s 170 (1)	Chief Engineer of relevant Municipal Corporation	180 days	Notice of approval of building fit for purpose.		
Approval	Design and Construction - Construction and Planning; Health and Safety	Municipal Corporations Act (Chap 25:04): s 171	Chief Engineer of relevant Municipal Corporation	180 days	Approval by engineer for conversion of building for public purpose.		

Permit	Area covered	Legal provisions	Competent authority	Timeline	Work needed to complete submission	Potential legislative amendment	Comment
Notice	Operation/ Health, Safety and Security	Municipal Corporations Act (Chap 25:04): s 163	Chief Engineer of Relevant Municipal Corporation	60 days	Notice to Chief Executive Officer of intention to pull down or remove a building within Municipality.		
Approval	Design and Construction - Construction and Planning; Health and Safety	Municipal Corporations Act (Chap 25:04): s 181	Chief Engineer of relevant Municipal Corporation	30 days	Approval for installation of hoarding, scaffolding or other building materials along footway or thoroughfare within Municipality.		
Approval	Design and Construction - Construction and Planning	Water and Sewerage Authority Act (Chap 54:40): s 57	Water and Sewerage Authority	2 months	Apply to water and sewerage authority to carry out the construction, alteration, repair, cleaning, or examination of any reservoir, well or borehole, line of pipes or other work forming part of its undertakings may cause the water therein to be discharged into any available watercourse and for that purpose may lay and maintain in any street, whether within or outside its limits of supply, all necessary discharge pipes and apparatus.		
Approval	Design and Construction - Construction and Planning	Water and Sewerage Authority Act (Chap 54:40): s 44	Water and Sewerage Authority	2 months	Licence from Water and Sewerage Authority to acquire water rights for abstraction from a watercourse of sufficient water for the purposes of any industry respecting which no other reasonably practicable means of obtaining water for the purpose are available. Application to include information on name of applicant, address of applicant, major activity, purpose for which water will used, type of surface to be exploited, location of source, method by which flow will be measured.		
Approval	Design and Construction - Construction and Planning	Water and Sewerage Authority Act (Chap 54:40): s 73	Water and Sewerage Authority	2 months	Approval from Water and Sewerage Authority to construct service reservoirs or sewerage facilities for which a supply of water for is needed. Application to include information on name of owner, address of premises, contact information, name and contact information of licensed sanitary constructor, type of building, location plan, plumbing design plans, planning approvals, intake points, date of commencement of supply.		
Licence	Design and Construction - Construction and Planning	Water and Sewerage Authority Act (Chap 54:40): 47 (4)	Water and Sewerage Authority	2 months	Licence required from Water and Sewerage Authority (a) construct any well, borehole, or other work for the purpose of abstracting underground water; or (b) extend any existing well, borehole, or other work for the purpose of abstracting additional quantities of underground water.		



Permit	Area covered	Legal provisions	Competent authority	Timeline	Work needed to complete submission	Potential legislative amendment	Comment
Approval	Design and Construction - Construction and Planning	Water Works And Conservation Act (Chap 54:41): s 12	Drainage Division, Ministry of Works	3 months	<p>Approval required by Drainage Division for the construction of drains. Process of obtaining drainage approval includes:</p> <ol style="list-style-type: none"> <li>1. Developer produces drawings and calculations that meet or exceed the standards set in the Drainage Approval Guideline document.</li> <li>2. A submission by the developer is made. (normally done after the parcel of land is cleared, but prior to ANY landscaping work i.e. cut/fill).</li> <li>3. The submission is reviewed to ensure all required documents and signatures are in the package. A site visit is performed to verify drawing details. Subsequently the design is reviewed and once in compliance, design approval is indicated to the developer.</li> <li>4. The developer may now commence work at the site.</li> <li>5. On completion of the road and drainage infrastructure, the developer notifies the Division so that a completion inspection can be scheduled.</li> <li>6. Once the development has been proven to be in compliance with the approved design drawings, the development shall be given drainage approval.</li> </ol> <p>Application submitted to include:</p> <ol style="list-style-type: none"> <li>1. A copy of Town and Country Planning Permission.</li> <li>2. A location plan of the proposed development.</li> <li>3. Surveyed boundaries of the entire parcel of land indicating size, shape and dimensions.</li> <li>4. Layout plans must be submitted at a scale of 1:500 indicating size, shape and dimensions of each proposed plot.</li> <li>5. Details of the existing contours of the area in question at a maximum vertical interval of 5 ft. (1.52m), based on mean sea level.</li> <li>6. A grading plan and detailed cross sections indicating the extent of proposed earthworks and indicating measures designed to ensure slope stability and erosion control.</li> <li>7. Details of any existing drains within the site of the proposed land development.</li> <li>8. Details of the proposed drainage layout, including full details at points of confluence and outfall.</li> <li>9. Details along a main drainage channel leading to a main watercourse.</li> <li>10. Singular discharge into a main watercourse adjacent to or passing through the development site is recommended.</li> <li>11. Gradient and profiles of proposed storm sewers with invert levels at each change of grade and direction.</li> <li>12. Longitudinal profiles and cross-sections of all drains and roadways.</li> <li>13. Drain sections designed to cater adequately for erosion control.</li> <li>14. Cylindrical culverts should not be less than 18" (450mm) in diameter.</li> <li>15. Hydrologic and hydraulic calculations with all development</li> </ol>		



Permit	Area covered	Legal provisions	Competent authority	Timeline	Work needed to complete submission	Potential legislative amendment	Comment
					<p>plans, together with the name and address of the consultant.</p> <p>16. Flow profiles (water levels) super imposed on proposed bank elevations (channel bank elevation) together with backwater profiles where appropriate for main channels passing through the development site.</p> <p>17. Calculations for pre-development and post-development peak discharges.</p> <p>18. Design provisions (e.g. detention systems) for ensuring that the discharge into the main outfall does not exceed the pre-development peak discharge, after the development comes into being.</p> <p>19. Designs for sediment control structures to cater for sedimentation anticipated during the subsequent to construction works, with pertinent calculations.</p> <p>20. All drainage drawings must be stamped and signed by a registered engineer from the Board of Engineering of Trinidad and Tobago.</p> <p>21. A copy of the relevant CEC pertinent to the development.</p> <p>Four (4) copies of each plan containing the information pertinent to your development, and giving consideration to the guidelines provided, should be submitted for considering approval.</p>		
Permit	Design and Construction - Construction and Planning	Forests Act (Chap 66:01): s 7A, 7C, 7F(2); Removal of Timber (Permits) Rules: r 2	Conservator of Forests; Forestry Division	30-45 days	<p>Permit required for felling of trees and removal of timber from state and private lands.</p> <p>Application for felling permit (including bulk) to include information on name, address, location of private lands, proof ownership of lands, forest range, number of trees to be felled, size of trees and species of tree, sketch map of relevant area.</p> <p>Application for removal of timber (including bulk) to include information on name, address, location of private lands, proof ownership of lands, forest range, demarcation of boundaries, destination of timber, proof of felling permit.</p>		
Certificate	Design and Construction - Construction and Planning	Electricity (Inspection) Act (Chap 54:72): s 4	Chief Inspector, Occupational Safety and Health Authority	30-45 days	<p>(a) Submission to Chief Inspector of notice of completion of new electrical installation;</p> <p>(b) Inspectorate to carry out inspection and test of installation; and</p> <p>(c) Approval by Chief Inspector of new electrical installation.</p>		
Certificate Of Entry/Permit to Excavate	Design and Construction - Construction and Planning	Asphalt Industry Regulation (Chap 87:50): ss 9, 10, 20; First Schedule Regulations: r 2.	Relevant Authority/ Ministry of Energy	30-45 days	<p>(a) Submission of Notice to Commence filed with Inspector to commence excavations or digging operations on asphalt bearing land which Notice shall include details of name of excavator, location, boundaries within which the operations are to be confined, statement declaring that boundaries have been duly marked out, and period for digging or excavation.</p> <p>(b) Entry of Notice to Commence into Mining Register by Inspector;</p> <p>(c) Issuance of Certificate of Entry;</p> <p>(d) Submission of Notice of Termination of excavation or digging</p>		

Permit	Area covered	Legal provisions	Competent authority	Timeline	Work needed to complete submission	Potential legislative amendment	Comment
					<p>operations on asphalt bearing land;</p> <p>(e) Entry of Notice of Termination into Mining Register by Inspector;</p> <p>(f) Issuance of Certificate of Entry; and</p> <p>(g) Submission of application for permit to dig asphalt. Application to be submitted to the Inspector and which shall include information as to:</p> <p>(i) the location of lands;</p> <p>(ii) the boundaries of the land on which the excavation is to be made;</p> <p>(iii) proposed depth of excavation in feet;</p> <p>(iv) proposed tonnage of material to be excavated;</p> <p>(v) proposed date of commencement and termination; and</p> <p>(h) Application for bond with Comptroller of Accounts.</p>		
Licence	Operation/ Health, Safety and Security	Explosives Act (Chap 16:02): ss 20, 24	Wholesale dealer/ First Division Police Officer	3 day - 2 weeks	<p>Permit to remove or convey explosives exceeding five pounds. Application to be made First Division Police Officer or from wholesale dealer or retail detailer. The application shall state the quantity of gunpowder intended to be removed, the places to which and the persons to whom it is to be distributed, the quantities to be left at each destination, the hours within which and the route by which the removal is intended to be effected, and the place or places, if any, where the gunpowder or any part thereof is intended to be deposited until the removal and distribution is completed.</p> <p>Permit may be granted within 24 hours by First Division Police Officer specifying the total quantity allowed to be removed, the places to which and the persons to whom the parcels making up the total quantity are to be distributed, the hours within which and the route by which the removal may be effected, and the place or places, if any, where the gunpowder or any part thereof may be deposited until the removal and distribution is completed</p> <p>A certificate for the removal of any quantity of gunpowder exceeding five pounds and not exceeding twenty pounds from the licensed premises of any wholesale dealer or retail dealer may be granted by the wholesale dealer or retail dealer to any person above the age of sixteen years. The certificate shall state the quantity of gunpowder intended to be removed, the places to which and the persons to whom it is to be delivered, and the hours within which and the route by which the removal is intended to be effected.</p>		

TABLE 1.2: CAPTURE - OPERATION

Permit	Area covered	Legal provisions	Competent authority	Timeline	Work needed to complete submission	Legislative amendment	Comment
Certificate of Environmental Clearance	Operation/ Environment	Environmental Management Act (Chap 35:05); Certificate of Environmental Clearance Rules, 2001 and Certificate of Environmental Clearance (Designated Activities) Order 2001: rr 3, 4, 5, 6	Environmental Management Authority	41-365 days	Project operator to operate according requirements and obligations set out in issued Certificate of Environmental Clearance.		
Noise Variation Permit	Operation/ Environment	Environmental Management Act (Chap 35:05); Noise Control Pollution Rules 2001: rr 9, 10	Environmental Management Authority	45 days	Application for noise variation permit (generate noise levels above prescribed limits) for facility.  (Refer to reference above for further information.)		
Source Registration/ Water Pollution Permit	Operation/ Environment	Environmental Management Act (Chap 35:05); Water Pollution Rules, 2001: rr 4, 6, 7	Environmental Management Authority	10 days	Source Registration to be submitted 45 day prior to release, where release of water pollutant is above prescribed standards.  (Refer to reference above for further information.)		

Permit	Area covered	Legal provisions	Competent authority	Timeline	Work needed to complete submission	Legislative amendment	Comment
Licence	Operation/ Utilities	Regulated Industries Commission Act Chap 54: 73s 38,39,68	Regulated Industries Commission	4-8 months	Requirement to apply for and receive a licence for the generation of electricity. Requires submission of application on prescribed form and payment of fee. Licence would be granted by Minister on the advice of the Commission. Information required to support application may be requested at the discretion of the Commission. Notice of application required to be published for public comment (28 day period). Commission to advise Minister within 60 days of receipt of all required information from applicant.		
Consent	Operation	Archipelagic Waters and Exclusive Economic Zone (Chap 51:02) Archipelagic Baselines of Trinidad and Tobago Order: s 22	President of Republic Of Trinidad and Tobago	1-2 months	<p>Consent from President of Republic of Trinidad and Tobago to carry out the following activities in the exclusive economic zone:</p> <p>(a) the exploration and exploitation, conservation and management of living and non-living natural resources;  (b) the production of energy from water, currents and winds;  (c) the establishment and use of artificial islands, installations and structures;  (d) marine scientific research;  (e) the protection and preservation of the marine environment; and  (f) any other such activity.</p> <p>Application for consent should include</p> <p>(a) the location and approximate area and boundaries where the proposed operation is to be conducted;  (b) the character of the operation;  (c) the probable duration of the operation;  (d) information as to whether the proposed operation:</p> <p>(i) is of direct significance for the exploration and exploitation of living and non-living natural resources;  (ii) involves drilling into the continental shelf, the use of explosives or the introduction of harmful substances into the marine environment;  (iii) involves the construction, operation or use of artificial islands, installations and structures;  (iv) contains information regarding the nature and objectives of the project which is inaccurate;  (v) is made by a researching State or competent international organisation which has outstanding obligations to Trinidad and Tobago from a prior research project;  (vi) will result in activities that unjustifiably interfere with activities undertaken by Trinidad and Tobago in accordance with its sovereign rights and jurisdiction.</p>		The requirement to have an approval from the President of the Republic of Trinidad and Tobago may be delayed as the President does not have a technical staff and would have to rely on the appropriate government ministry for advice before acting.
Licence	Operation	Continental Shelf Act (Chap 1:52): s 3(1) - (3)	Minister with responsibility for external affairs	30-45 days	<p>Application for licence from Minister to carry out activities (other than those related to petroleum in a submarine area) with respect to the seabed and subsoil and their natural resources.</p> <p>Consent of Port Authority to the carrying out works on any part of the seabed if obstruction or danger to navigation is likely to result.</p>		

Permit	Area covered	Legal provisions	Competent authority	Timeline	Work needed to complete submission	Legislative amendment	Comment
Notice of Survey	Operation	Oil Mining (High Water Mark) Act (Chap 62:03): ss 3, 6	Chief Petroleum Engineer, Ministry of Energy	12-18 months	An oil operator intending to drill an oil well within 500 feet of a high water mark shall cause a survey to be completed at least 12 months prior to drilling. Notice of survey is to be given to the Chief Petroleum Engineer, Commissioner of State Lands and adjacent land owners. The original plan of the survey is to be lodged with the Director of Surveys for approval. Upon approval a copy of the approved survey is to be delivered to the Chief Petroleum Engineer, Commissioner of State Lands and adjacent land owners.		
Licence	Operation/ Chemicals	Pesticides and Toxic Chemicals Act (Chap 30:03); Pesticides and Toxic Chemicals (Amendment) Act, 2005; Toxic Chemicals Regulations: rr 29, 35, 17	Chairman, Pesticides and Toxic Chemicals Board	1-3 months	Licence to register, import, export, manufacture, use, store, distribute and transport toxic chemical in marketable quantities. Application for manufacture or use of toxic chemical requires information on name and address of applicant, trade name of toxic chemical, physical form chemical to be stored, common name of active ingredients and percentages; name, address and registration number of manufacture, hazard class or formulation. Application for importation of toxic chemical requires name and address of applicant, nature of business, full name of toxic chemical, quantity, yearly use, name, address and registration number of manufacture. Application for registration of premises requires information on name and address of application, address of premises to be licensed; name, number and qualification of employees.		The Chairman of Pesticides and Toxic Chemicals would have to decide if chemicals utilised in a CO <sub>2</sub> capture process, if any, would be deemed 'toxic' according to the definition of this Act, and be used in 'marketable quantities'.
Fire Certificate	Operation/ Health, Safety and Security	Occupational Health and Safety Act (Chap 88:08): s 26	Chief Fire Officer, Trinidad and Tobago Fire Services	Preliminary approval: 14-21 days; Interim approval after inspection of premises: 90-180 days. Certificate is finalised when building is actually occupied.	Fire Certificate issued by Fire Authority establishing premises as being provided with such means of escape in the case of fire for the persons employed therein as may reasonably be required.		
Certificate	Operation/ Utilities	Electricity (Inspection) Act (Chap 54:72): s 4	Chief Inspector, Occupational Health and Safety Authority	30-45 days	(a) Submission to Chief Inspector of notice of completion of new electrical installation; (b) Inspectorate to carry out inspection and test of installation; and (c) Approval by Chief Inspector of new electrical installation		
Risk Assessment	Operation/ Health, Safety and Security	Occupational Health and Safety Act (Chap 88:08): s 13A	Chief Inspector, Occupational Health and Safety Authority	2 weeks - 2 month	Where there are twenty five or more employees, employer is required to (i) prepare a risk assessment to ascertain risks to safety and health of person in employment annually or where there has been a change in circumstances (ii) establish a health and safety committee. Notice to be given to the Chief Inspector.		

Permit	Area covered	Legal provisions	Competent authority	Timeline	Work needed to complete submission	Legislative amendment	Comment
Notice	Operation/ Health, Safety and Security	Occupational Health and Safety Act (Chap 88:08): s 60 (1)	Chief Inspector, Occupational Health and Safety Authority	1 day	Serve on Chief Inspector and local health authority written notice stating the name of the occupier or the title of the firm, the postal address of the factory, the nature of the work, whether mechanical power is used and, if so, its nature, the name of the local health authority within whose district the factory is situated.		
Notice	Operation/ Health, Safety and Security	Occupational Health and Safety Act (Chap 88:08): 60 (2)	Chief Inspector, Occupational Health and Safety Authority	1 month	File with Chief Inspector and local health authority within one month notice of commencement of mechanical power used in factory and nature of mechanical power.		
Annual Return	Operation/ Health, Safety and Security	Occupational Health and Safety Act (Chap 88:08): s 62	Chief Inspector, Occupational Health and Safety Authority	1 day	File with Chief Inspector a return (annually) the number of persons employed in his factory, and giving such particulars as may be prescribed, as to the hours of employment of each employee, as to the age, sex and occupation of all persons employed.		
Notice	Operation/ Health, Safety and Security	Occupational Health and Safety Act (Chap 88:08): s 63	Chief Inspector, Occupational Health and Safety Authority	1 day	File Notice of Commencement of Building Operations or works of engineering construction not later than seven days after beginning thereof stating the name and postal address of the person so undertaking the operations or works, the place and nature of the operations or works and the name of the regional health authority within whose district the operations or works are situated. This is not applicable to works that will be completed within six weeks or less.		
Notice	Operation/ Pipeline installation	Petroleum Act (Chap 62:01); Petroleum Regulations: r 26	Minister of Energy	6 months	<p>Pipeline constructed in exercise of rights granted under an Exploration and Production or a Refining Licence that extends beyond the licensed area, or any pipeline constructed outside the area provided for by an Exploration and Production or a Refining Licence may, in the discretion of the Minister, be declared a common carrier pipeline.</p> <p>In the case of pipelines declared to be common carriers, the Minister shall by Order provide for the manner in which, and the terms and conditions subject to which, such pipelines may be utilised for the conveyance of suitable substances by the general public.</p>	Provision should be amended to include reference to licence for CO <sub>2</sub> pipelines.	
Approval	Operation/ Utilities	Petroleum Act (Chap 62:01); Petroleum Regulations: r 33	Water and Sewerage Authority	1-3 months	Approval of WASA to use free of charge any water found on or within State Lands and submarine areas situated in the area covered by a licence.		
Approval	Operation/ Drilling	Petroleum Regulations (Chap 62:01): r 43 (e)	Minister of Energy	2-6 months	Approval of Minister to drill well which is not substantially vertical on lands the surface of which is not occupied or which is not required for public purposes.		
Approval	Operation/ Drilling	Petroleum Regulations (Chap 62:01): r 43 (f)	Minister of Energy	2-6 months	Approval of Minister to undertake direction drilling into lands the surface of which is occupied or required for public purposes from adjoining lands.		
Approval	Operation	Petroleum Regulations (Chap 62:01): 43 (g)	Minister of Energy	2-6 months	Approval of Minister to drill borehole or well within a distance of 300 feet from the boundaries of licensed area on land and 600 feet from the boundaries of the licensed area in submarine areas		
Notice	Operation	Petroleum Regulations (Chap 62:01): 43 (n)	Minister of Energy	1 day	Report without delay to Minister the discovery of minerals not specified in a licence.		



Permit	Area covered	Legal provisions	Competent authority	Timeline	Work needed to complete submission	Legislative amendment	Comment
Notice	Operation/ Site Preparation	Petroleum Act (Chap 62:01): Petroleum Regulations: r 35	Commissioner of State Lands	1 month (minimum)	Notice to Commissioner of State Lands at least one month before occupying any state lands clearing, cutting or felling any undergrowth or timber on any state lands for the purpose of any petroleum operations.		
Notice	Operation	Petroleum Regulations (Chap 62:01): r 43 (a)	Minister of Energy	21 days minimum	Notice to Minister specifying the location of survey area, borehole or well prior to any geophysical activity, drilling, re-drilling, deepening or plugging of any borehole, well or perforation of casing. Notice to be given at least 21 days prior to commencement of activities. Approval of Minister to be obtained prior to commencement.		
Notice	Operation	Petroleum Regulations (Chap 62:01): r 43 (b)	Minister of Energy	21 days minimum	Notice to Minister of intention to erect fixed installations. Notice to be given at least 21 days prior to commencement of activities. Approval of Minister required prior to installation.		
Approval	Operation/ Utilities	Water and Sewerage Authority Act (Chap 54:40): s 57	Water and Sewerage Authority	2 months	Apply to water and sewerage authority to carry out the construction, alteration, repair, cleaning, or examination of any reservoir, well or borehole, line of pipes or other work forming part of its undertakings may cause the water therein to be discharged into any available watercourse and for that purpose may lay and maintain in any street, whether within or outside its limits of supply, all necessary discharge pipes and apparatus.		

TABLE 1.3: CAPTURE - DECOMMISSIONING

Permit	Area Covered	Legal provisions	Competent authority	Timeline	Work needed to complete submission	Legislative amendment	Comment
Licence	Decommissioning/ Planning	Petroleum Act (Chap 62:01): ss 9, 12; Petroleum Regulations: rr 3 (1), 6, 7, 8, 9, 10, 11, 12, 13	Minister of Energy	6-8 months	Exploration Licence; Exploration and Production (Public Petroleum Rights) Licence; Exploration and Production (Private Petroleum Rights) Licence; Refining Licence; Liquefaction of Natural Gas Licence; Pipeline Licence; Transportation (other than by pipeline) Licence; Product Sharing Contract or Marketing Licence; Petrochemical Licence; Compressed Natural Gas Licence is required to engage in petroleum operations on land or in a submarine area.  Licence contains terms and conditions contained in licence regulating termination or abandonment of operations.		
Certificate of Environmental Clearance	Decommissioning/ Environment	Environmental Management Act (Chap 35:05); Certificate of Environmental Clearance Rules, 2001 and Certificate of Environmental Clearance (Designated Activities) Order 2001: rr 3, 4, 5, 6	Environmental Management Authority	41-365 days	Project operator to adhere to any decommissioning requirements and obligations set out in issued Certificate of Environmental Clearance.		
Notice	Decommissioning/ Planning	Municipal Corporations Act (Chap 25:04): s163	Chief Engineer of Relevant Municipal Corporation	60 days	Notice to Chief Executive Officer of intention to pull down or remove a building within Municipality.		
Notice	Decommissioning/ Health and Safety	Occupational Health and Safety Act (Chap 88:08)	Chief Inspector, Occupational Health and Safety Authority	2-6 weeks	File with Chief Inspector and local health authority notice of decommissioning.		
Notice	Decommissioning/ Health and Safety	Occupational Health and Safety Act (Chap 88:08): s63	Chief Inspector, Occupational Health and Safety Authority	7 days	File Notice of Commencement of Building Operations or works of engineering construction not later than seven days after beginning thereof stating the name and postal address of the person so undertaking the operations or works, the place and nature of the operations or works and the name of the regional health authority within whose district the operations or works are situated. This is not applicable to works that will be completed within six weeks or less.		
Certificate Of Entry/ Permit to Excavate	Decommissioning/ Planning	Asphalt Industry Regulation (Chap 87:50): ss 9, 10, 20; First Schedule Regulations: r 2.	Relevant Authority/ Ministry of Energy	30-45 days	(i) Submission of Notice of Termination of excavation or digging operations on asphalt bearing land; and (ii) Entry of Notice of Termination into Mining Register by Inspector;		

TABLE 2.1: TRANSPORT - DESIGN AND CONSTRUCTION

Permit	Area covered	Legal provisions	Competent authority	Timeline	Work needed to complete submission	Legislative amendment	Comment
Notice/Deed/instrument	Design and Construction/Construction and Planning	Land Acquisition Act (Chap 58:01): s3 (1)-(5)	Commissioner of State Lands	90 days	Status and Title searches are carried out to determine if desired land falls under state or private ownership. If the land is state owned, it can be reserved for the particular purpose but if private, it needs to be acquired. Acquisition of private lands for public purpose requires notice of acquisition of lands signed by the Secretary to the Cabinet to be published in Gazette, daily newspapers and personally on persons who have an interest in the lands to be acquired. Where no objections or representations are made, surveys to be conducted by Commissioner of State of Lands and to investigate whether lands are fit for the intended purpose. President may formally vest the lands in the State on resolution by Parliament or may by Order allow Commissioner of State lands to enter into possession.		
Planning Permission	Design and Construction/Construction and Planning	Town and Country Act (Chap 35:01): ss 8, 11	Town and Country Planning Division	3 months - 1 year	Outline permission and Final Planning permission for the development of land in Trinidad and Tobago. Application to be made to the Town and Country Planning Division. Application to include information relating to any previous applications for planning permission; nature of development; name of applicant; address of applicant, proof of ownership; location of land; sketch plan; statement as to buildings on site and intended use of existing or proposed building; site area; floor area; services and amenities available on site; surface drainage; sewage.		
Certificate of Environmental Clearance	Design and Construction/Environment	Environmental Management Act (Chap 35:05); Certificate of Environmental Clearance Rules, 2001 and Certificate of Environmental Clearance (Designated Activities) Order 2001: rr 3, 4, 5, 6	Environmental Management Authority	41 - 365 days	Submission of Application for Certificate of Environmental Clearance to the Authority.  (Refer to reference above for further information.)	Amend Certificate of Environmental Clearance (Designated Activities) Order 2001 to cover CO <sub>2</sub> capture, transport and storage.	Designated activities would cover the main project activity (e.g. enhanced oil recovery; power generation; ammonia) but does not specifically regulate CO <sub>2</sub> capture, transport and storage as a separate activity.  Form A used to apply for Certificate of Environmental Clearance. Discretion of the Environmental Management Authority to require an Environmental Impact Assessment.
Noise Variation Permit	Design and Construction/Environment	Environmental Management Act (Chap 35:05); Noise Control Pollution Rules 2001: rr 9, 10	Environmental Management Authority	45 days	Application for noise variation permit (generate noise levels above prescribed limits) for facility.  (Refer to reference above for further information.)		There are three designated zones, General Areas, Environmentally Sensitive Areas and Industrial Areas. Activities related to CO <sub>2</sub> Capture will likely fall within Industrial Areas.

Permit	Area covered	Legal provisions	Competent authority	Timeline	Work needed to complete submission	Legislative amendment	Comment
Permit	Design and Construction/ Environment	Forests Act (Chap 66:01): s 7A, 7C, 7F(2); Removal of Timber (Permits) Rules: r 2	Conservator of Forests; Forestry Division	30-45 days	Permit required for felling of trees and removal of timber from state and private lands.  (Refer to reference above for further information.)		
Licence	Design and Construction/ Construction and Planning	Pipelines Act (Chap 35:51): s 4	Chief Technical Officer/ Chief Executive Officer of Municipal Corporation/ Commissioner of State Lands or relevant Minister	90 days	Licence required lay or connecting any pipeline in, along, across, over or under any road, trace, waterway, railway or land vested in the State. Licence to lay pipelines in the case of any main road or water way shall be made to Chief Technical Officer (Works). Licence to lay pipeline in the case of any public road or state trace which fall under the purview of a municipal corporation, the application shall be submitted to the chief executive officer of the appropriate municipality. Licence to lay pipeline in the case of any state lands shall be made to the Commissioner of State Lands	Amendment of Pipelines Act to include transport of CO <sub>2</sub>	
Notice/ Approval	Design and Construction/ Construction and Planning	Highways Act (Chap 48:01): s 64	Highways Division, Ministry of Works	Minimum 7 days	Written notice to authority for the highway (not less than seven days) of intention to execute works which involves the breaking up, opening, tunnelling or boring of highway.		
Notice	Design and Construction/ Construction and Planning	Pipelines Act (Chap 35:51): ss 7, 8	Private Land Owner	90 days	Notify owners of lands held privately of intention to construct pipeline at least two days prior to commencement. Serve within six weeks of entry a statement of particulars regarding the description and proposed location of pipeline and a notice requiring the owner to execute a deed or instrument of assent. A comprehensive plan of survey of a completed pipeline system shall be attached to the deed or instrument registered.	Amendment of Pipelines Act to include transport of CO <sub>2</sub>	

TABLE 2.2: TRANSPORT - OPERATION

Permit	Area covered	Legal provisions	Competent authority	Timeline	Work needed to complete submission	Legislative amendment	Comment
Certificate/Return	Operation	Drogher Act (Chap 50:07): s 4	Chief Harbour Master of Trinidad and Tobago	1-3 weeks	(a) File return to Chief Harbour Master specifying the name of the owner or owners of drogher, the name and registered tonnage of the drogher; and (b) Chief Harbour Master to issue Certificate of Registration of Drogher.		This approval might be relevant for an operational offshore project.
Boat Licence	Operation	Harbours Act (Chap 50:06): s 30	Harbour Master of Relevant Harbour	1-3 weeks	Application by owner of boat, flat or craft for boat licence. Application to include statutory declaration that the applicant is owner and proof of safety and fitness of boat, flat or craft.		This approval might be relevant for an operational offshore project.
Boatman Licence	Operation	Harbours Act (Chap 50:06): s 31	Harbour Master of Relevant Harbour	1-3 weeks	Application by boatman for licence. Show proof that boatman is a fit and proper person.		This approval might be relevant for an operational offshore project.
Licence	Operation	Motor Launches (Chap 50:08): ss 4, 5	Harbour Master of Relevant Harbour	2 - 5 weeks	Owner to have motor launch inspected by qualified surveyor. Declaration to be completed by qualified surveyor attesting that:  (a) that the hull, machinery and prescribed equipment of the motor launch are in good condition and that she is in all respects fit to be employed as a motor launch; (b) the limits (if any) beyond which, as regards the hull, machinery and equipment, the motor launch is not fit to ply; (c) the crew required for the safe navigation of the motor launch; and (d) the number of passengers the motor launch is, in his judgment, capable of carrying with safety.  The Harbour Master on receipt of declaration and payment of fee will issue licence valid for one year.		In practice, the applicant for licence is required to write a letter requesting licensing of a motor launch to the Director of the Maritime Services Division. The letter must be signed by the owner, or by an agent who has written authorisation to sign for the owner. Documents to be included with the letter are: <ul style="list-style-type: none"><li>• Certificate of Registry (if the vessel is registered in another country).</li><li>• Proof of ownership.</li><li>• Specifications of the vessel, including length and tonnage. Evidence of insurance coverage.</li><li>• Copies of Certificate of Competency as a Captain and/or Engineer of a motor launch or other proof of formal qualification to operate a vessel.</li></ul>
Approval	Operation	Port Authority Act (Chap 51:01): s 44	Comptroller of Customs and Excise	1 week	Approval from Comptroller to permit passengers and goods to disembark at a location other than a harbour. Application for approval to disembark at harbour or otherwise include (a) the ship's register and the ship's papers; (b) a list of the passengers, if any, showing particulars of their sex and occupation; (c) a list showing the deaths, if any, which have occurred during the voyage; (d) a list showing the stowaways, if any, on the ship, and shall also supply such other information in relation to the ship's passengers and		This approval might be relevant for an operational offshore project.

					cargo as such employee may require.		
Approval	Operation	Port Authority Act (Chap 51:01): s 48	Customs Officer, Customs and Excise Division	1-3 days	Application for outward clearance shall include a certificate issued by Harbour Master certifying that all things required by the Harbour Act relating to merchant shipping is complied with and Certificate stating that due and charges have been paid by ship and provision of Port Authority Act have been met		This approval might be relevant for an operational offshore project.
Submission of arrival advice	Operation	Port Authority Act (Chap 51:01): Port Authority (Tariff) Regulations: r 4	Comptroller of Customs and Excise	3-5 days	Provision of arrival advice of a vessel at port premises one week prior to arrival with updates at intervals of 72 hours, 48 hours and 24 hours before actual arrival of the vessel. Port Authority to be provided with the type and quantity of cargo to be loaded or discharged, the type and dimension of vessel, the mode of presentation of cargo and the desired pattern of operation, i.e., whether containerised RO/RO or LO/LO, bulk, heavy lift cargo, pre-slung, palletised, etc. Shipping agents shall produce for the Authority at least one day prior to the arrival of the vessel all relevant information such as Stowage Plans, Bills of Lading, Ships' Manifest, Dangerous Goods Manifest, Trans-shipment Shipping Bills and Export Advice. The vessel operator shall provide documentation as to the required sequence and mix of loading at least one week prior to the arrival of the vessel.		This approval might be relevant for an operational offshore project.
Notice	Operation	Port Authority Act (Chap 51:01): s 23 (1)	Harbour Master of Relevant Harbour	1-5 days	Notify Harbour Master of detailed statement of the quantities and types of explosives and dangerous goods and goods possessing dangerous properties (Class 1 of Class 11 dangerous goods marked with an * in Schedule B to Act) carried on board the vessel and the places in which such goods are stowed and has granted permission for the vessel to occupy a berth.		This approval might be relevant for an operational offshore project.
Approval	Operation	Port Authority Act (Chap 51:01): s 25	Wharf Superintendent of relevant Harbour/Port	1-2 days	Permission of Wharf Superintendent for depositing or passing over of goods on any wharf.		This approval might be relevant for an operational offshore project.
Approval	Operation	Port Authority Act (Chap 51:01): Schedule VI Bye-Laws: s 3	Harbour Engineer of relevant Harbour/Port	1-14 days	Permission from Harbour Engineer to use slipway. Vessels occupying slipway fitted with engines using petroleum or petroleum products as fuel require a 'Gas Free' Certificate issued by a competent person approved by the Senior Inspector of Factories.		This approval might be relevant for an operational offshore project.



TABLE 2.3: TRANSPORT - DECOMMISSIONING

Permit	Area covered	Legal provisions	Competent authority	Timeline	Work needed to complete submission	Legislative amendment	Comment
Certificate of Environmental Clearance	Decommissioning: Environment	Environmental Management Act (Chap 35:05); Certificate of Environmental Clearance Rules, 2001 and Certificate of Environmental Clearance (Designated Activities) Order 2001: rr 3, 4, 5, 6	Environmental Management Authority	41-365 days	Project operator to adhere to any decommissioning requirements and obligations set out in issued Certificate of Environmental Clearance.	Amend Certificate of Environmental Clearance (Designated Activities) Order 2001 to cover CO <sub>2</sub> capture, transport and storage.	Designated activities would cover the main project activity (e.g. enhanced oil recovery; power generation; ammonia) but does not specifically regulate CO <sub>2</sub> capture, transport and storage as a separate activity.  Form A used to apply for Certificate of Environmental Clearance. Discretion of the Environmental Management Authority to require an Environmental Impact Assessment.
Notice	Decommissioning	Pipelines Act (Chap 35:51): s 4	Chief Technical Officer/Chief Executive Officer of Municipal Corporation/ Minister of Energy	3 months	Provision under pipeline licence for discontinuance of use of pipeline. Notice to be given in the case of any main road or water way shall be made to Chief Technical Officer (Works) or in the case of any public road or state trace which fall under the purview of a municipal corporation to the chief executive officer of the appropriate municipality. Where pipeline falls on state lands notice shall be given to the Commissioner of State Lands.	Amendment of Pipelines Act to include transport of CO <sub>2</sub>	

TABLE 3.1: STORAGE - DESIGN AND CONSTRUCTION

Permit	Area covered	Legal provisions	Competent authority	Timeline	Work needed to complete submission	Legislative amendment	Comment
Notice of Survey	Operation	Oil Mining (High Water Mark) Act (Chap 62:03): ss 3, 6	Chief Petroleum Engineer, Ministry of Energy	12-18 months	An oil operator intending to drill an oil well within 500 feet of a high water mark shall cause a survey to be completed at least 12 months prior to drilling. Notice of survey is to be given to the Chief Petroleum Engineer, Commissioner of State Lands and adjacent land owners. The original plan of the survey is to be lodged with the Director of Surveys for approval. Upon approval a copy of the approved survey is to be delivered to the Chief Petroleum Engineer, Commissioner of State Lands and adjacent land owners.		
Licence	Design and Construction/ Construction and Planning	Petroleum Act (Chap 62:01): ss 9, 12; Petroleum Regulations: rr 3 (1), 6, 7, 8, 9, 10, 11, 12, 13	Minister of Energy	6 months	Exploration Licence; Exploration and Production (Public Petroleum Rights) Licence; Exploration and Production (Private Petroleum Rights) Licence; Refining Licence; Liquefaction of Natural Gas Licence; Pipeline Licence; Transportation (other than by pipeline) Licence; Product Sharing Contract or Marketing Licence; Petrochemical Licence; Compressed Natural Gas Licence is required to engage in petroleum operations on land or in a submarine area. Application for a licence to be made in writing to the Minister and shall contain particulars as to (a) the name, nationality, place of business and nature of business of the applicant and, if the place of business is outside Trinidad and Tobago, the name, nationality and residence of a duly authorised agent in Trinidad and Tobago; (b) type of licence for which application is made; (c) in relation to applications for a Refining Licence, the project of all the refining installations proposed with all necessary supporting plans and exhibits, including a site plan in respect of the refining and auxiliary installations, together with evidence that such planning permission as may be necessary under the Town and Country Planning Act has been granted; (d) in relation to— (i) the construction of new retail marketing stations; or (ii) any substantial modifications to an existing station, that prior permission has been obtained from the appropriate authorities and submitted to the Minister, ensuring compliance with all the statutory provisions in respect of traffic, town and country planning, public health and other relevant written laws; (e) where applicable, a description of the site or project, as the case may be, illustrated by a plan or map to be prepared to such scale as the Minister may require, of the situation, boundaries and area of the parcels of land with respect to which the application is submitted and in the case of any land referred to in section 2(3) of the Act such other particulars as may be required in order to identify them; (f) where applicable, a description of the operation intended to be carried out including the methods to be used, the capacity of the plant and nature of products produced, and a copy of the relevant feasibility study and a statement indicating the source or sources from which the petroleum or products, or both, will be obtained and analyses of these substances; (g) a statement of the capital investment involved and evidence, in such detail as the Minister may require, as to the applicant's financial and technical competence for undertaking the operation applied for, and his ability to obtain the requisite personnel and equipment;		

					<p>(h) in relation to applications for a licence under regulation 3(1)(h)(iii), any relevant agreement between the applicant and the Marketing Licensee for wholesale operations;</p> <p>(i) in relation to applications for a Pipeline Licence for the installation and operation of a new trunk pipeline, the route, the length, the diameter and other particulars (to be shown on a map) of the proposed pipeline, its boundary lines, the names of the owners of the land over which it would pass, the location of pumping and terminal stations and their capacities, the estimated cost of construction and such other information as may be necessary in order to make clear the purpose and the nature and specifications of the pipeline.</p>		
					<p>An application for an Exploration and Production (Private Petroleum Rights) Licence shall contain the registered numbers of the documents evidencing title to the Private Petroleum Rights concerned.</p> <p>The holder of an Exploration and Production Licence or a Refining Licence is required to apply for a Pipeline Licence only if the pipeline which he proposes to lay extends beyond the area covered by his licence.</p> <p>Where any length of a pipeline is to be laid along or across a road, waterway or railway, or upon or under the surface of the sea or in the vicinity of a harbour, the Minister shall consult with the appropriate Government Ministry or Department or Statutory Authority with a view to ensuring that the road, waterway, railway, sea or harbour is not thereby rendered unsafe, contaminated or polluted.</p> <p>On receipt of an application for a licence in respect of any petroleum operation, the Minister shall cause notice of such application when published in the Gazette to be sent to the District Revenue Officer of such Ward or Wards to which the application relates. The notice shall be exhibited for three weeks in a conspicuous place at the office of the District Revenue Officer</p>		
Approval	Design and Construction/ Construction and Planning	Petroleum Act (Chap 62:01): s12	Minister of Energy	3 months	Permission required from Minister to carry out a topographical or other survey to construct a pipeline for the purpose of conveying petroleum or petroleum products or other substances with a view to selecting the route of the proposed pipeline.		
Approval	Design and Construction/ Construction and Planning	Petroleum Act (Chap 62:01): Petroleum Regulations: r 26	Minister of Energy	6 months	<p>Pipeline constructed in exercise of rights granted under an Exploration and Production or a Refining Licence that extends beyond the licensed area, or any pipeline constructed outside the area provided for by an Exploration and Production or a Refining Licence may, in the discretion of the Minister, be declared a common carrier pipeline.</p> <p>(2) In the case of pipelines declared to be common carriers, the Minister shall by Order provide for the manner in which, and the terms and conditions subject to which, such pipelines may be utilised for the conveyance of suitable substances by the general public.</p>	Provision should be amended to include reference to licence for carbon capture and storage	
Notice	Design and Construction/ Construction and Planning	Petroleum Act (Chap 62:01): Petroleum Regulations: r 35	Commissioner of State Lands	Variable (minimum 1 month)	Notice to Commissioner of State Lands at least one month for final permission to be granted before occupying any state lands clearing, cutting or felling any undergrowth or timber on any state lands for the purpose of any petroleum operations		
Application	Design and Construction/ Construction and Planning	Petroleum Regulations (Chap 62:01): r 39 (1), (2)	Minister of Energy	3 months	Application to Minister to occupy a parcel of State Lands reasonably necessary for the purpose of carrying out submarine operations. Lease to be granted for surface rents. Where lands are privately owned the licensee shall take steps to secure the grant of the lease with the private owner.		

Notice	Design and Construction/ Construction and Planning	Petroleum Regulations (Chap 62:01): r 43 (a)	Minister of Energy	21 days	Notice to Minister specifying the location of survey area, borehole or well prior to any geophysical activity, drilling, re-drilling, deepening or plugging of any borehole, well or perforation of casing. Notice to be given at least 21 days prior to commencement of activities. Approval of Minister to be obtained prior to commencement.		
Notice	Design and Construction/ Construction and Planning	Petroleum Regulations (Chap 62:01): r 43 (b)	Minister of Energy	21 days	Notice to Minister of intention to erect fixed installations. Notice to be given at least 21 days prior to commencement of activities. Approval of Minister required prior to installation.		
Approval	Design and Construction/ Construction and Planning	Petroleum Regulations (Chap 62:01): r 43 (e)	Minister of Energy	2-6 months	Approval of Minister to drill well which is not substantially vertical on lands the surface of which is not occupied or which is not required for public purposes.		
Approval	Design and Construction/ Construction and Planning	Petroleum Regulations (Chap 62:01): r 43(f)	Minister of Energy	2-6 months	Approval of Minister to undertake direction drilling into lands the surface of which is occupied or required for public purposes from adjoining lands.		
Approval	Design and Construction/ Construction and Planning	Petroleum Regulations (Chap 62:01): r 43 (g)	Minister of Energy	2-6 months	Approval of Minister to drill borehole or well within a distance of 300 feet from the boundaries of licensed area on land and 600 feet from the boundaries of the licensed area in submarine areas.		
Notice	Design and Construction/ Construction and Planning	Petroleum Regulations (Chap 62:01): r 43 (n)	Minister of Energy	1 day	Report without delay to Minister the discovery of minerals not specified in a licence.		
Notice	Design and Construction/Appraisal/ Construction and Planning/Seismic Survey	Petroleum Act and Petroleum Regulations (Chap 62:01); Licence Requirement	Ministry of Energy	1-2 weeks	<p>Notification to Ministry for Energy under licence or product sharing contract of intention to commence seismic surveys. Notification should include information as to:</p> <ol style="list-style-type: none"> <li>1. Name of project co-ordinator and title.</li> <li>2. Description of type of geophysical survey seismic, borehole seismic, shallow hazard, bathymetric, gravity etc and environment over which the survey will be conducted.</li> <li>3. Scaled map at least 1: 100,000. If for reason of expediency a page size must be supplied, the precise co-ordinates of the end points of lines for 2D seismic, gravity, magnetic, etc.</li> <li>4. Description of Geodetic Framework employed must be supplied.</li> <li>5. Program length in km.</li> <li>6. Geodetic Framework Information.</li> <li>7. Detailed description of acquisition parameters and equipment including: <ol style="list-style-type: none"> <li>a) source type, volume , strength etc.</li> <li>b) receiver type, geophone, hydrophone etc.</li> <li>c) length of cable , depth below sea level if applicable.</li> <li>d) fold, geophones or hydrophones per group.</li> <li>e) digital acquisition units.</li> <li>f) recording media.</li> <li>g) equipment being utilised.</li> <li>h) any other technical information that is relevant.</li> </ol> </li> <li>8. Description of expected processing flow and products.</li> </ol>		

					9. Name of main acquisition and processing contractors and vessel info. 10. Timetable for acquisition and processing. 11. If telecommunication equipment is to be used the Telecommunication Division requirements must be met.		
Notice/ Deed/ Instrument	Design and Construction/ Construction and Planning	Land Acquisition Act (Chap58:01): s3 (1) - (5)	Commissioner of State Lands	90 days	Status and Title searches are carried out to determine if desired land falls under state or private ownership. If the land is state owned, it can be reserved for the particular purpose but if private, it needs to be acquired. Acquisition of private lands for public purpose requires notice of acquisition of lands signed by the Secretary to the Cabinet to be published in Gazette, daily newspapers and personally on persons who have an interest in the lands to be acquired. Where no objections or representations are made, surveys to be conducted by Commissioner of State of Lands and to investigate whether lands are fit for the intended purpose. President may formally vest the lands in the State on resolution by Parliament or may by Order allow Commissioner of State lands to enter into possession.		
Licence	Design and Construction/ Construction and Planning	State Lands Act (Chap 57:01): ss 25, 28	Commissioner of State Lands	3 months	Licence to dig or win or remove, or is in any material on or from any State Lands in Trinidad and Tobago. Application to be made to persons designated by the President. While permission is needed from the Commissioner of State lands, a final decision is not made without his consultation with the Ministry of Energy and Energy Affairs.		
Planning Permission	Design and Construction/ Construction and Planning	Town and Country Act (Chap 35:01): ss 8, 11	Town and Country Planning Division	3 months - 1 year	Outline permission and Final Planning permission for the development of land in Trinidad and Tobago. Application to be made to the Town and Country Planning Division. Application to include information relating to any previous applications for planning permission; nature of development; name of applicant; address of applicant, proof of ownership; location of land; sketch plan; statement as to buildings on site and intended use of existing or proposed building; site area; floor area; services and amenities available on site; surface drainage; sewage.		
Certificate of Environmental Clearance	Design and Construction/ Construction and Planning	Environmental Management Act (Chap 35:05); Certificate of Environmental Clearance Rules, 2001 and Certificate of Environmental Clearance (Designated Activities) Order 2001: rr 3, 4, 5, 6.	Environmental Management Authority	41-365 days	Submission of Application for Certificate of Environmental Clearance to the Authority.  (Refer to reference above for further information.)		In the absence of dedicated legislation addressing monitoring, measurement and verification (MMV) requirements for CO <sub>2</sub> storage, the EMA might want to consider developing guidelines or requirements to include in the CEC requirements.
Source Registration/ Water Pollution Permit	Design and Construction/ Construction and Planning	Environmental Management Act (Chap 35:05); Water Pollution Rules, 2001: rr 4, 6, 7	Environmental Management Authority	10 days	Source Registration to be submitted 45 day prior to release, where release of water pollutant is above prescribed standards.  (Refer to reference above for further information.)		



Certificate	Operation/ Health, Safety and Security	Municipal Corporations Act (Chap 25:04): 161	Chief Engineer of Relevant Municipal Corporation	180 days	Certification of new building by Engineer.		
Notice	Operation/ Health, Safety and Security	Municipal Corporations Act (Chap 25:04): s163	Chief Engineer of Relevant Municipal Corporation	60 days	Notice to Chief Executive Officer of intention to pull down or remove a building within Municipality.		
Approval	Operation/ Health, Safety and Security	Municipal Corporations Act (Chap 25:04): s 169	Chief Executive Officer of Relevant Municipal Corporation	180 days	Approval to construct building over drain, ravine or storm water channel.		
Notice	Operation/ Health, Safety and Security	Municipal Corporations Act (Chap 25:04): s 170	Chief Engineer of Relevant Municipal Corporation	180 days	Notice of approval of building fit for purpose.		
Approval	Operation/ Health, Safety and Security	Municipal Corporations Act (Chap 25:04): s 171	Chief Engineer of Relevant Municipal Corporation	180 days	Approval by engineer for conversion of building for public purpose.		
Approval	Operation/ Health, Safety and Security	Municipal Corporations Act (Chap 25:04): s 181	Chief Engineer of Relevant Municipal Corporation	30 days	Approval for installation of hoarding, scaffolding or other building materials along footway or thoroughfare within Municipality.		
Certificate	Operation/ Utilities	Electricity (Inspection) Act (Chap 54:72): s 4	Chief Inspector	30-45 days	(a) Submission to Chief Inspector of notice of completion of new electrical installation; (b) Inspectorate to carry out inspection and test of installation; and (c) Approval by Chief Inspector of new electrical installation.		
Certificate Of Entry/ Permit to Excavate	Operation	Asphalt Industry Regulation (Chap 87:50): ss 9, 10, 20; First Schedule Regulations: r 2.	Relevant Authority/ Ministry of Energy	30-45 days	(a) Submission of Notice to Commence filed with Inspector to commence excavations or digging operations on asphalt bearing land which Notice shall include details of name of excavator, location, boundaries within which the operations are to be confined, statement declaring that boundaries have been duly marked out, and period for digging or excavation; (b) Entry of Notice to Commence into Mining Register by Inspector; (c) Issuance of Certificate of Entry; (d) Submission of Notice of Termination of excavation or digging operations on asphalt bearing land; (e) Entry of Notice of Termination into Mining Register by Inspector; (f) Issuance of Certificate of Entry; (g) Submission of application for permit to dig asphalt. Application to be submitted to the Inspector and which shall include information as to: (i) the location of lands; (ii) the boundaries of the land on which the excavation is to be made; (iii) proposed depth of excavation in feet; (iv) proposed tonnage of material to be excavated		



					(v) proposed date of commencement and termination (h) Application for bond with Comptroller of Accounts.		
Consent	Design and Construction/ Construction and Planning	Archipelagic Waters and Exclusive Economic Zone (Chap 51:02) Archipelagic Baselines of Trinidad and Tobago Order: s 22	President of Republic Of Trinidad and Tobago	1-2 months	Consent from President of Republic of Trinidad and Tobago to carry out the following activities in the exclusive economic zone.  (Refer to reference above for further information.)		
Licence	Design and Construction/ Construction and Planning	Continental Shelf Act (Chap 1:52): s 3(1) - (3)	Minister with responsibility for external affairs.	30-45 days	Application for licence from Minister to carry out activities (other than those related to petroleum in a submarine area) with respect to the seabed and subsoil and their natural resources; Consent of Port Authority to the carrying out works on any part of the seabed if obstruction or danger to navigation is likely to result.		
Certificate	Design and Construction - Construction and Planning; Health and Safety	Occupational Health and Safety Act (Chap 88:08): s 57 (1) (a)	Chief Inspector, Occupational Safety and Healthy Authority and Agency	2-4 weeks	Certification of suitability of premises for storage or use of explosive or highly flammable substances.		
Approval	Design and Construction - Construction and Planning; Health and Safety	Occupational Health and Safety Act (Chap 88:08): s 59	Chief Inspector, Occupational Safety and Healthy Authority and Agency	2-6 weeks	Approval of the Chief Inspector is required for: (a) the construction of any new factory or warehouse; (b) the reconstruction of any existing factory or warehouse or the extensive installation of any new plant or machinery therein; or (c) the alteration, modification or changes in the existing plant or machinery which is likely to change significantly the working environment in a factory or warehouse.		
Licence	Design and Construction/ Construction and Planning	Explosives Act (Chap 16:02): ss 20, 24	Wholesale dealer/ First Division Police Officer	3 days- 2 weeks	Permit to remove or convey explosives exceeding five pounds.  (Refer to reference above for further information.)		
Permit	Design and Construction/ Construction and Planning	Forests Act (Chap 66:01): s 7A, 7C, 7F(2); Removal of Timber (Permits) Rules: r 2	Conservator of Forests; Forestry Division	30-45 days	Permit required for felling of trees and removal of timber from state and private lands.  (Refer to reference above for further information.)		

Notice	Design and Construction/ Appraisal/ Construction and Planning/Seismic Survey	Non Legislative Requirement	Coast Guard of Trinidad and Tobago	1 day	Provide notification to Coast Guard. Notice should contain details of: 1. Project description 2. Project timeline 3. Coordinates of survey area		
Notice	Design and Construction/ Appraisal/ Construction and Planning/Seismic Survey	Non Legislative Requirement	Fisheries Division	1 day	Provide notification to the Director of the Fisheries Division. Notice should contain details of: 1. Project description 2. Project timeline 3. Coordinates of survey area 4. Vessel information 5. Equipment to be used		
Notice	Design and Construction/ Appraisal/ Construction and Planning/Seismic Survey	Non Legislative Requirement	Director of Lands and Surveys and Commissioner of State Lands	1 day	Provide notification to the Director of Lands and Surveys Division. Notice should contain details of:  1. Project Description 2. Project timeline 3. Coordinates of survey area		
Notice	Design and Construction/ Appraisal/ Construction and Planning/Seismic Survey	Non Legislative Requirement	Minister of Foreign Affairs	1 day	Provide notification to the Minister of Foreign Affairs where works are being undertaken near boundaries of Tobago, Venezuela or other territories. Notification should contain details a General Project Description		
Notice/ Approval	Design and Construction/ Appraisal/ Construction and Planning/Seismic Survey	Non Legislative Requirement	Commissioner of Police	1 day	Notify the Commissioner of Police of intention to conduct surveys where air guns are to be used. Commissioner will determine whether any further approvals are required for exercise. Notification should contain specifications on air guns.		
Notice/ Approval	Design and Construction/ Appraisal/ Construction and Planning/Seismic Survey	Non Legislative Requirement	Occupational Safety and Health Authority	1 day	Notify the Occupational, Safety and Health Authority of surveys. Authority will determine whether any further approvals are required for exercise. Notification should contain details of: 1. Project Description 2. Project timeline 3. Coordinates of survey area 4. Vessel information 5. Equipment to be used		

Approval	Design and Construction/ Appraisal/ Construction and Planning/Seismic Survey	Non Legislative Requirement	Maritime Services, Ministry of Works and Transport	1-2 weeks	Apply to Maritime Services Division of the Ministry of Works and Transport for approval for conduct of seismic survey. Application should contain information as to: 1. Vessel Specifications; 2. Proof of valid insurance; and 3. Commencement date for operations must be stated so that announcements can be made.  Applicant required to advertise its intended activities in a daily newspaper. At the end of the survey, Applicant must send another letter to the Maritime Services Division informing of completion of activities so that announcements will cease.		
Licence	Design and Construction/Injec tion/ Construction and Planning/ Health and Safety	Explosives Act (Chap 16:02): ss 20,24	Wholesale dealer/ First Division Police Officer		Permit to remove or convey explosives exceeding five pounds.  (Refer to reference above for further information.)	Licence	Design and Construction/Injection/ Construction and Planning/ Health and Safety

TABLE 3.2: STORAGE - OPERATION (INJECTION)

Permit	Area covered	Legal provisions	Competent authority	Timeline	Work needed to complete submission	Legislative amendment	Comment
Certificate of Environmental Clearance	Operation/ Environment	Environmental Management Act (Chap 35:05); Certificate of Environmental Clearance Rules, 2001 and Certificate of Environmental Clearance (Designated Activities) Order 2001: rr 4, 6, 7	Environmental Management Authority	41- 365 days	Project operator to operate according requirements and obligations set out in issued Certificate of Environmental Clearance.  (Refer to reference above for further information.)		
Noise Variation Permit	Operation/ Environment	Environmental Management Act (Chap 35:05); Noise Control Pollution Rules 2001: rr 9, 10	Environmental Management Authority	45 days	Application for noise variation permit (generate noise levels above prescribed limits) for facility.		
Source Registration/ Water Pollution Permit	Operation/ Environment	Environmental Management Act (Chap 35:05); Water Pollution Rules, 2001: rr 4, 6, 7	Environmental Management Authority	10 days	Source Registration to be submitted 45 day prior to release, where release of water pollutant is above prescribed standards.  (Refer to reference above for further information.)		
Risk Assessment	Operation/ Health, Safety and Security	Occupational Health and Safety Act (Chap 88:08): s 13 A	Chief Inspector, Occupational Health and Safety Authority	2 weeks - 2 months	Where there are twenty five or more employees, employer is required to (i) prepare a risk assessment to ascertain risks to safety and health of person in employment annually or where there has been a change in circumstances (ii) establish a health and safety committee		

Permit	Area covered	Legal provisions	Competent authority	Timeline	Work needed to complete submission	Legislative amendment	Comment
Fire Certificate	Operation/ Health, Safety and Security	Occupational Health and Safety Act (Chap 88:08): s 26 (1) - (2)	Chief Fire Officer, Trinidad and Tobago Fire Services	14-21 days; Interim approval after inspection of premises: 90-180 days. Certificate is finalised when building is actually occupied	Fire Certificate issued by Fire Authority establishing premises as being provided with such means of escape in the case of fire for the persons employed therein as may reasonably be required.		
Approval	Operation/ Utilities	Water and Sewerage Authority Act (Chap 54:40): s 57	Water and Sewerage Authority	60 days	Apply to water and sewerage authority to carry out the construction, alteration, repair, cleaning, or examination of any reservoir, well or borehole, line of pipes or other work forming part of its undertakings may cause the water therein to be discharged into any available watercourse and for that purpose may lay and maintain in any street, whether within or outside its limits of supply, all necessary discharge pipes and apparatus.		
Notice	Operation/ Health, Safety and Security	Occupational Health and Safety Act (Chap 88:08): s 60 (1)	Chief Inspector, Occupational Health and Safety Authority	1 day	Serve on Chief Inspector and local health authority written notice stating the name of the occupier or the title of the firm, the postal address of the factory, the nature of the work, whether mechanical power is used and, if so, its nature, the name of the local health authority within whose district the factory is situated.		
Notice	Operation/ Health, Safety and Security	Occupational Health and Safety Act (Chap 88:08): s 60 (2)	Chief Inspector, Occupational Health and Safety Authority	1 month	File with Chief Inspector and local health authority within one month notice of commencement of mechanical power used in factory and nature of mechanical power.		
Annual Return	Operation/ Health, Safety and Security	Occupational Health and Safety Act (Chap 88:08): s 62	Chief Inspector, Occupational Health and Safety Authority	1 day	File with Chief Inspector a return (annually) the number of persons employed in his factory, and giving such particulars as may be prescribed, as to the hours of employment of each employee, as to the age, sex and occupation of all persons employed.		
Notice	Operation/ Health, Safety and Security	Occupational Health and Safety Act (Chap 88:08): s 63	Chief Inspector, Occupational Health and Safety Authority	7 days	File Notice of Commencement of Building Operations or works of engineering construction not later than seven days after beginning thereof stating the name and postal address of the person so undertaking the operations or works, the place and nature of the operations or works and the name of the regional health authority within whose district the operations or works are situated. This is not applicable to works that will be completed within six weeks or less.		

Permit	Area covered	Legal provisions	Competent authority	Timeline	Work needed to complete submission	Legislative amendment	Comment
Approval	Operation/ Utilities	Petroleum Act (Chap 62:01): Petroleum Regulations: r 33	Water and Sewerage Authority	1-3 months	Approval of WASA to use free of charge any water found on or within State Lands and submarine areas situated in the area covered by a licence.		
Approval	Operation/ Drilling	Petroleum Regulations (Chap 62:01): r 43 (e)	Minister of Energy	2-6 months	Approval of Minister to drill well which is not substantially vertical on lands the surface of which is not occupied or which is not required for public purposes.		
Approval	Operation/ Drilling	Petroleum Regulations (Chap 62:01): r 43 (f)	Minister of Energy	2-6 months	Approval of Minister to undertake direction drilling into lands the surface of which is occupied or required for public purposes from adjoining lands.		
Approval	Operation	Petroleum Regulations (Chap 62:01): r 43 (g)	Minister of Energy	2-6 months	Approval of Minister to drill borehole or well within a distance of 300 feet from the boundaries of licensed area on land and 600 feet from the boundaries of the licensed area in submarine areas.		
Notice	Operation/ Site Preparation	Petroleum Act (Chap 62:01): Petroleum Regulations: r 35	Commissioner of State Lands	1 month	Notice to Commissioner of State Lands at least one month before occupying any state lands clearing, cutting or felling any undergrowth or timber on any state lands for the purpose of any petroleum operations.		
Notice	Operation	Petroleum Regulations (Chap 62:01): r 43 (a)	Minister of Energy	21 days minimum	Notice to Minister specifying the location of survey area, borehole or well prior to any geophysical activity, drilling, re-drilling, deepening or plugging of any borehole, well or perforation of casing. Notice to be given at least 21 days prior to commencement of activities. Approval of Minister to be obtained prior to commencement.		
Notice	Operation	Petroleum Regulations (Chap 62:01): r 43 (b)	Minister of Energy	21 days minimum	Notice to Minister of intention to erect fixed installations. Notice to be given at least 21 days prior to commencement of activities. Approval of Minister required prior to installation.		
Notice	Operation	Petroleum Regulations (Chap 62:01): r 43 (n)	Minister of Energy	1 day	Report without delay to Minister the discovery of minerals not specified in a licence.		



TABLE 3.3: STORAGE - DECOMMISSIONING

Permit	Area covered	Legal provisions	Competent authority	Timeline	Work needed to complete submission	Legislative amendment	Comment
Certificate of Environmental Clearance	Decommissioning /Environment	Environmental Management Act (Chap 35:05); Certificate of Environmental Clearance Rules, 2001 and Certificate of Environmental Clearance (Designated Activities) Order 2001: rr 3, 4, 5, 6	Environmental Management Authority	41-365 days	Project operator to adhere to any decommissioning requirements and obligations set out in issued Certificate of Environmental Clearance.  (Refer to reference above for further information.)		
Licence	Decommissioning /Planning	Petroleum Act (Chap 62:01): ss 9, 12; Petroleum Regulations: rr 3 (1), 6, 7, 8, 9, 10, 11, 12, 13	Minister of Energy	6 months - 1 year	Exploration Licence; Exploration and Production (Public Petroleum Rights) Licence; Exploration and Production (Private Petroleum Rights) Licence; Refining Licence; Liquefaction of Natural Gas Licence; Pipeline Licence; Transportation (other than by pipeline) Licence; Product Sharing Contract or Marketing Licence; Petrochemical Licence; Compressed Natural Gas Licence are required to engage in petroleum operations on land or in a submarine area.  Licence contains terms and conditions contained in licence regulating termination or abandonment of operations.		
Notice	Decommissioning /Planning	Municipal Corporations Act (Chap 25:04): s 163	Chief Engineer of Relevant Municipal Corporation	60 days	Notice to Chief Executive Officer of intention to pull down or remove a building within Municipality.		
Notice	Decommissioning /Health and Safety	Occupational Health and Safety Act (Chap 88:08)	Chief Inspector of Occupational Health and Safety Authority/ Public Health Inspector for Relevant Municipal Corporation	1-6 weeks	File with Chief Inspector and local health authority notice of decommissioning		

Permit	Area covered	Legal provisions	Competent authority	Timeline	Work needed to complete submission	Legislative amendment	Comment
Notice	Decommissioning /Health and Safety	Occupational Health and Safety Act (Chap 88:08): s 63	Chief Inspector of Occupational Health and Safety Authority	7 days	File Notice of Commencement of Building Operations or works of engineering construction not later than seven days after beginning thereof stating the name and postal address of the person so undertaking the operations or works, the place and nature of the operations or works and the name of the regional health authority within whose district the operations or works are situated. This is not applicable to works that will be completed within six weeks or less.		
Certificate Of Entry/ Permit to Excavate	Decommissioning /Planning	Asphalt Industry Regulation (Chap 87:50): ss 9, 10, 20; First Schedule Regulations: r 2.	Relevant Authority/ Ministry of Energy	30-45 days	(i) Submission of Notice of Termination of excavation or digging operations on asphalt bearing land; and (ii) Entry of Notice of Termination into Mining Register by Inspector.		

TABLE 3.4: STORAGE - POST-DECOMMISSIONING

Permit	Area covered	Legal provisions	Competent authority	Timeline	Work needed to complete submission	Legislative amendment	Comment
Certificate of Environmental Clearance	Decommissioning/ Environment	Environmental Management Act (Chap 35:05); Certificate of Environmental Clearance Rules, 2001 and Certificate of Environmental Clearance (Designated Activities) Order 2001: rr 3, 4, 5, 6	Environmental Management Authority	41- 65 days	Project operator to adhere to any post-decommissioning requirements and obligations set out in issued Certificate of Environmental Clearance.  (Refer to reference above for further information.)		